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14. ABSTRACT
The Japanese Science and Technology Management Program designed a training program with four major components: 1)Japanese language training, 2)education in Japanese business and social culture, 3)education on the inter-relationships between Japanese family, educational, industrial, and government institutions, and 4) either an internship or study mission to Japan. The unifying focus of the program was to provide participants with the underlying knowledge required to make intelligent decisions about identifying which Japanese management methods may be useful in U.S. government and industry labs.

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JSTMP Final Technical Report
Grant F49620-94-1-0467

December 15, 1999

I. General Information about the JSTMP Program

Japan has become a world power in manufacturing, trade and finance, and is determined to become so in the fields of engineering and creative science as well. To remain competitive vis-a-vis Japan, the United States needs a cadre of scientists, engineers and technical managers who are capable of closely monitoring the latest developments in Japanese technology.

A. Training

In order to address this need, the Japanese Science and Technology Management Program (JSTMP), with initial funding in 1992 from the Air Force Office of Scientific Research, designed a training program with four major components: 1) Japanese language training, 2) education in Japanese business and social culture, 3) education on the inter-relationships between Japanese family, educational, industrial, and government institutions, and 4) either an internship or study mission to Japan. The unifying intellectual focus of the program was to provide participants with the underlying knowledge required to make intelligent decisions about identifying which Japanese management methods may be useful in U.S. government and industry labs. As our second grant cycle drew to a close, this remained the focus of the JSTMP Program.

While a rudimentary understanding of Japanese methods may be obtained by studying materials in the English language, many subtle, yet still important, points are certain to be lost. For this reason, the foundation of the JSTMP program was centered on Japanese language training. The University of Pittsburgh's Asian Studies Program and Carnegie Mellon University's Graduate School of Industrial Administration (GSIA) continued to work together on a two-track system of language training to accommodate individuals with different needs and time constraints. The University of Pittsburgh continued its immersion-like program in which individuals with little or no language background took intensive Japanese language training courses for two semesters and accelerated Japanese language courses for the third semester. Students achieved the equivalent of three years of college level Japanese at the regular pace in less than a one year period.

Because not everyone can dedicate themselves to full-time Japanese language and Japan-related studies, Carnegie Mellon University offers a more *a la carte* approach to language study. At CMU, participants were able to supplement their main activities in engineering, science and industrial administration with Japanese language coursework. Additionally, each University begins their language program in a different semester--Pitt in the fall and CMU in the spring--so that a student could begin his or her language training in either semester, thus allowing for further flexibility. (Course descriptions can be found in Appendix 1, "Detailed Description of Japanese Language Courses.")

In addition to language training, JSTMP provided extensive training in Japanese business and social culture as well as the inter-relationships between Japanese family, educational, industrial, and government institutions. JSTMP at the University of Pittsburgh offered a special course, Japanese Culture, since the inception of the program that introduced participants to a wide range of Japan-related topics. The material in the course was expansive and drew upon Pitt's access to a substantial number of Japan specialists. The course was offered in the evening to allow participation by engineers and scientists from the corporate world as well. It also enrolled regular students from the science and engineering disciplines who had no free time during the day for an elective course. The course was offered in both the fall and spring semesters and the lecturers and lecture topics changed from term to term. The objective of the lectures was to give JSTMP participants a broad-based familiarization with Japanese culture from many different perspectives.

Another means of presenting Japanese business and technology methods was realized each year through the *Japanese Business Lecture Series* held at Carnegie Mellon University and at the University of Pittsburgh. Open to the public, the *JBLS* featured high-profile Japanese and American speakers who addressed a common theme of Japan-US relations and provided insight into how to better understand Japanese business, economic and social cultures. Between 1993 and 1999, 58 speakers addressed more than 2600 people, including individuals from business and academic communities in the Western Pennsylvania area. Videos and a monograph of the presentations were made available to the public after the series, thus exposing this important event to an even greater audience.

Ad hoc lectures are another important facet used in teaching the Japanese culture. Individuals with significant Japan experience were often invited to give talks of interest to JSTMP participants. These topics ranged from industrial policy to personal experiences. Twenty-nine different speakers gave talks throughout the entire grant period.

B. Internships

Long and short-term internships in Japan, including study missions, were an integral part of the JSTMP training program. This time in Japan provided the participant with the opportunity to put the language and culture training that he or she had received in the US to work, and also gave him or her the opportunity to garner new insights into the management of technology in Japan. By developing strong working relationships with their Japanese counterparts, JSTMP participants were able to clearly understand the processes which they had previously studied.

In order to make these training sessions in Japan possible, JSTMP Directors and Program Managers worked extensively to develop a network of Japanese contacts in potential host companies and institutions. To do so, they traveled to Japan many times to develop internship opportunities at Japanese host companies, as well as to check the progress of interns who were already in Japan. Since 1995, many internships were secured in cooperation with the Japanese External Trade Organization (JETRO) and the Ministry of International Trade and Industry (MITI). Details concerning the companies visited are contained in the specific data section.

Students who were able to take time off from their studies for an extended trip to Japan had the opportunity to be exposed to Japan through Mini-Trips or Study Missions. A limited number of outstanding Master's students from CMU's Graduate School of Industrial Administration (GSIA) formed small teams and went to Japan for a ten day period to visit Japanese and American companies to fulfill their research requirements. These students were required to take a special course on Japanese business and social culture prior to their departure. Each group was then required to make a presentation and submit a report at the conclusion of their research.

Summer internships are another way that students with limited time to be away from their coursework can enhance their understanding of the Japanese language, culture and management of technology. Students from CMU's GSIA worked in companies in Japan that ranged from small, domestic companies to large, multinational firms for a period of three months over the summer. As part of the internship requirements, each intern was required to provide a written report regarding his/her internship experience to Dr. Sunder Kekre or Dr. Duane Seppi of GSIA. Each report was reviewed and evaluated for the fulfillment of a course requirement in the discipline of manufacturing or finance. Such reports have been included in former progress reports.

A long-term internship (6 months to 2 years) is one of the best ways for an individual to gain an in-depth understanding of Japan and the

management of its technology. JSTMP generally did not place interns in long-term internships unless they had the equivalent of at least two years of Japanese language training. Most interns found their long-term internship to be rewarding both professionally and personally. Details of internship placements are included in the following section.

In addition to internships, JSTMP participants have had the opportunity to go to Japan through the Student Exchange Program. Aoyama Gakuin University provided the opportunity for JSTMP students to do coursework and conduct research at it's institution. In 1993, a CMU student participated in management courses there and after completing an internship at Yaskawa Electric Corporation, JSTMP participant Martin O'Donnell studied for a term at Aoyama Gakuin. Another JSTMP trainee, Margaret Haack, conducted research over a ninth-month period at this institution on Japanese High Tech Company Resources. Ms. Kristina Vassil, a former JSTMP intern, studied at the University of Library and Information Science in Tsukuba, Japan under this program.

During the month of March, 1996, graduate students from Carnegie Mellon University were sent to Japan for one week to visit various American and Japanese companies as part of a research effort through the JSTMP Program.

C. Research ✓

Although training is the primary emphasis of JSTMP, the role of research has also played an important part in the Program. For example, a research group under the direction of Professor Richard Florida, Director of the Center for Economic Development at CMU, examined the scope, activities and effects of Japanese research, development, and design centers in the United States. This research began in the Fall of 1993 and focused on the capabilities of U.S.-based Japanese R&D and product development facilities in the automobile and electronics industries. Field research, consisting of site visits and interviews, was conducted at about a dozen Japanese research, design, and development facilities in the United States. Interim results of the research were summarized in a working paper entitled: "The Globalization of Innovation: Japanese R&D in the United States." The results of this research were presented to the representatives from the JITMT programs at Stanford and MIT as well as to policy making groups in Washington D.C. The final research findings were published in two articles:

* Richard Florida and Martin Kenney. "The Globalization of Innovation:The Economic Geography of Japanese R&D in the U.S., Economic Geography (October, 1994),70,4:344-69.

* Richard Florida. "Foreign Direct R&D Investment in the U.S." January, 1996.

In addition to Dr. Florida's research, Dr. Sridhar Tayur, CMU GSIA Assistant Professor, and his student research assistant visited Yaskawa Electric Corporation and Nissan Motor Company in Kyushu, Japan in August 1993 to conduct research on manufacturing setups. Mr. Thomas J. Keogh, former Director (Pittsburgh) of International Licensing and Trade Compliance for Westinghouse conducted a study on behalf of JSTMP on the effects of cultural and /or language training on U.S.-Japan business and technical interchanges. During his research, Mr. Keogh interviewed engineers at Westinghouse who had been working with the Mitsubishi group for a significant period of time. He summarized that the training required for dealing successfully with Japanese businesses is determined by the nature and extent of the interaction anticipated. This report is included in Appendix 2.

Another research project sponsored by JSTMP was conducted by University of Pittsburgh Graduate School of Public & International Affairs' PhD candidate, Mr. Matthew Dixon. Mr. Dixon's research focused on the strategic alliance between Boeing and the Japanese aerospace industry. After his initial research trip to Japan, JSTMP supported one additional trip to Japan in 1997 for Mr. Dixon to continue his research. As an inter-JITMT center cooperative, Mr. Dixon participated in The University of Texas at Austin's recent aerospace conference in Seattle, Washington.

In his initial report, which was included in prior progress reports, Mr. Dixon wrote in his executive summary, "The strategic alliance which Boeing has forged with Japan's major aerospace firms, (Mitsubishi, Kawasaki, and Fuji Heavy Industries) for the new 777 aircraft marks a distinct expansion of the Japanese role in such projects from previous arms-length supplier and subcontractor relationships to new, more deeply intertwined risk-sharing partnerships.

"The question has been raised by academics, American government officials and even US aerospace industry personnel about the logic behind such a 'deepening' of ties. The Japanese government's longtime desire to break into the lucrative commercial aircraft industry is well-known. Moreover, the ability of Japanese firms to internalize foreign (and particularly American) technologies through past strategic partnerships in industries ranging from semiconductors to construction equipment makes Boeing's strategy even more circumspect. The fear, in short, is that Japanese firms together with the financial and legal backing of the Japanese government, will use such alliances as the 777 partnership to siphon off American aerospace technology and establish a foothold in the industry--thus leading to

the almost certain end of McDonnell-Douglas's commercial activities and a probable decrease in Boeing's market share as well. In this regard, a number of well-known academics have drawn upon an analogy which assumes American aerospace will suffer the same fate as commercial electronics, semiconductors, and computers.

"Indeed, the issue is a politically-charged one not only because of the enormous positive spillovers generated by the American commercial aircraft industry (such as jobs, new technologies, and the sector's contribution to the trade balance), but also in large part because of what has been perceived at home as America's declining competitiveness and the role which Japanese industrial policies have had in promoting it. Such an environment has given rise to suggested policies which range from regulating these kinds of alliances to increasing government support of such industries in order to keep American firms at home. This attitude has reinforced the view that, by and large, American companies continue to misunderstand the Japanese and thus, engage in collaborative ventures which reveal their own practiced naiveté about their Japanese counterparts.

"But these opinions, however applicable to many a case of early US-Japanese collaborations in the industries mentioned above, fall considerably short of adequately addressing current conditions--either of the 777 partnership itself or of the potential for growth of the Japanese aerospace industry. For a variety of reasons, it would be unwise to conclude that Japan will be able to profit from collaboration in commercial aircraft in the same way it has in commercial electronics, for example. Moreover, while the Boeing-Japanese partnership conforms well to the established theories of strategic partnering behavior (for example, in its development of a closely-intertwined relationship between the firms involved), it does not seem to conform well to characteristics which have been assumed to belong to US-Japanese strategic alliances. Most importantly in this regard, it is crucial to point out that where past wisdom has dictated that when American firms train their Japanese partners, it normally comes back to haunt them; the 777 partnership--at least in the short term-- seems to represent a situation in which an American partner has extensively trained the competition and perhaps most remarkable of all, has made it pay off without eroding its own market advantage."

Four faculty members from the University of Pittsburgh's Engineering and Bio-medical Engineering Departments, Drs. Raymond Hoare, Mohammed Ataai, Robert Boston, and Robert Sclabassi traveled to Japan to visit various Engineering companies and Bio-medical institutions as well as several universities in another JSTMP sponsored research initiative. The Engineers were assisted by JSTMP with funding and advised on cultural issues and travel concerns.

Two faculty members from the University of Pittsburgh's Industrial Engineering Department, Drs. Alice Smith and Bryan Norman, were selected to participate in a research exchange program on intelligent manufacturing with counterpart members at Ashikaga Institute of Technology in a three-year project that is funded by Monbusho, Japan's Ministry of Education. Drs. Smith and Norman visited Japan three times during the grant period, and similarly, their Japanese counterparts were scheduled to visit the University of Pittsburgh twice during the same period. JSTMP has been advising Drs. Smith and Norman and their graduate students on Japanese language and cultural issues, including protocol, manners, gift-giving, etc. JSTMP was also able to provide travel funds to Dr. Alice Smith for her second trip to Japan in the Fall of 1999.

D. Promotion

One of the greatest challenges of JSTMP has been promoting the Program to industry, business, academia and even the government. Although many agree that knowledge of Japanese language and culture is essential to remain competitive in this global age, very few are willing to invest the time and energy to acquire the skills needed or to support their employees to acquire such skills. One example is that of a woman with a PhD in Electrical Engineering who had worked in Japan for a Japanese company, but wanted to become a full-time JSTMP participant to build a solid foundation in her Japanese language skills. She was offered a job by the Army Research Office in Japan but had no flexibility with the start date to be able to take the intensive Japanese language course at the University of Pittsburgh. She ended up taking the job but missing out on essential language training through our program.

In order to promote JSTMP the following strategies have been used:

Brochure

A comprehensive Program brochure was created for JSTMP and translated into Japanese. A copy of the brochure was included with Program Status Report #2 in October 1993. This brochure was updated in January of 1998.

Mailings

Databases with the names and addresses of target audiences were created for mailing JSTMP literature. Approximately 500 program announcements were mailed from these lists to a variety of organizations, including: the Western Pennsylvania High Tech Council; Japanese language educators; government labs belonging to the Air Force, Army, DOE, and Navy; engineering advisors and other educators at colleges in the tri-state

area (to be expanded nationally); the Western PA Export Council; the Japan-America Society of Pennsylvania; the Pennsylvania International Trade Organization; the Pennsylvania Trade Multipliers; the Greater Pittsburgh Chamber of Commerce; and others. This database was constantly expanded and mailings were conducted on a continuous basis.

Flyers and other JSTMP material were distributed to various departments within the universities themselves. In addition, contact was made with specific individuals in the engineering and business schools at both CMU and Pitt.

Electronic bulletin boards

Bulletin boards over the internet system were also used to advertise the program. These reached thousands of users and cost little to use. The user groups posted to included: pitt.general, pgh.general, pa.general, sci.chem, sci.bio, sci.bio.technology, sci.edu, sci.electronics, sci.energy, sci.energy, sci.engr, sci.engr.biomed, sci.engr.chem, sci.engr.civil, sci.engr.control, sci.engr.mech, sci.image.processing, sci.materials, sci.med, sci.med.physics, sci.military, sci.misc, sci.optics, sci.physics, sci.physics.fusion, sci.research, sci.research.careers, rec.arts.manga, soc.culture.asian.american, soc.culture.japan, sci.lang.japan, sci.nanotech, soc.college, soc.college.grad, soc.college.gradinfo, soc.culture.misc, soc.misc, soc.penpals, soc.religion.eastern, alt.manga, alt.music.karaoke, rec.arts.bonsai, biz.misc, ieee.general, ieee.announce, sci.physics.research, misc.invest, misc.entrepreneurs, and misc.education.

Press releases

Press releases were used to announce the awarding of the grant and initiation of the Program in 1992. As a result, local AM radio interviews were conducted when the grant was first received. Further, a local weekly business magazine featured an article about the Program that included interviews with Dr. Keith Brown and Ms. Susie Brown.

Promotional Booth at Conference/Exposition

JSTMP set up a booth at 'Synchronicity '93," a conference and exposition held in Pittsburgh in May of 1993 which showcased technology designed to improve manufacturing efficiency. Our aim was to promote JSTMP to both exhibitors and attendees. From this JSTMP received one electrical engineer who attended the summer intensive language course.

Advertisements

Advertisements for recruitment purposes were placed in the following publications:

The Advocate

JSTMP was featured in an article and ad in this graduate student newspaper at the University of Pittsburgh.

Chemical & Engineering News
A JSTMP advertisement was placed in this weekly magazine that reached professional engineers and scientists in a number of fields throughout the U.S. and the world.

Mangajin
A JSTMP ad was placed in this magazine that reached a wide national audience of people with an interest in Japan and computer technology.

PittNews
JSTMP ads were placed in the University of Pittsburgh campus newspaper that reached the entire student body, faculty and staff.

Pitt Student Directory
A JSTMP ad was placed in this Directory.

Pittsburgh Business Times
A JSTMP ad was placed in this Pittsburgh newspaper that reached the professional community of Pittsburgh and the surrounding area.

Pittsburgh Post-Gazette
JSTMP ads were placed in this widely read Pittsburgh newspaper.

Washington Technology Weekly
JSTMP advertisements were placed in this weekly journal published in the Washington D.C. area. In particular, this magazine heavily targets firms that have traditionally been associated with the defense industry. Ads placed in this magazine produced a large number of inquiries.

Professional Journals and Newsletters
JSTMP was featured in an article in the June 1993 edition of *Manufacturing Forum*, the publication of the High Tech Council of Pittsburgh. It was featured in the September 1993 edition of *Asian Newsletter*, a publication of the Mid Atlantic Region Association for Asian Studies. The Program was also announced in *KORYU*, the monthly newsletter of the Japan-America Society of Pennsylvania.

JSTMP Newsletter ✓
The first JSTMP Newsletter was published in the summer of 1995 and distributed to over 300 individuals. Since then, three additional newsletters have been published. (Apendix 3)

Local Promotion by JSTMP Manager
In 1998, an advertisement was placed in the *Pittsburgh Business Times*, a regional newspaper that responds to the needs of Pittsburgh's business community, with the purpose of recruiting students from the University of Pittsburgh and CMU. Intense recruitment campaigns were conducted by JSTMP Managers in 1998 and 1999 and through various JITMT centers around the country. The program's homepage, located at http://www.pitt.edu/~jstmp, also helped to bring in applications from around the country.

National Promotion by the Japan Information Access Project
JSTMP, along with the other ten JITMT centers, commissioned Mindy Kotler, President of the Japan Information Access Project, to act as JSTMP's National Promotions manager. Ms. Kotler arranged a monthly "brown-bag" lunch series in the Washington DC area, which focused on current trends in US-Japan relations. Each of these sessions was attended by approximately fifty government, corporate and academic representatives in the area. Ms. Kotler also arranged private briefings at the Pentagon on Japan-related security issues on behalf of the JITMT centers.

E. Cooperation ✓

Over the course of the grant period, JSTMP was committed to building cooperation amongst JITMT members and was particularly active in coordinating information about the programs in order to secure support from the Japanese government's Ministry of International Trade and Industry (MITI) and the Agency of Industrial Science and Technology (AIST). In addition to many meetings between various Program Directors, the following avenues were followed to increase cooperation amongst JITMT centers:

JETRO Roadshows
During the summers of 1995, 1996, 1997, 1998 and 1999, the Japan External Trade Organization (JETRO) and MITI hosted a series of introductory meetings in Japan to introduce the Japan Industry and Technology Management Training Program (JITMT) to Japanese business which could serve as potential host companies for JITMT interns. JSTMP participated in all of these meetings and the subsequent internship matching process coordinated by JETRO.

Intern Workshops
Plans for intern workshops were made during the 1993 and 1994 JITMT meetings. JSTMP organized the First Internship Workshop in Japan titled, "Issues in Japanese Science and Technology Management: A Workshop for Interns." The workshop was held on July 9, 1994 at the Shin-Yokohama Hotel. Over 180 interns and administrators were in attendance. Two keynote

speakers addressed the group: Dr. Nooya Yoda, Executive Advisor, Toray Corporate Business Research, and Mr. John Stern, President, Americn Electric Association.

Popular at this first workshop and repeated at subsequent workshops was a panel presentation by "veteran" interns coming together to discuss their experiences from a variety of perspectives. Interesting and funny anecdotes were offered as interns shared their concerns and experiences. During 'break-out" discussion sessions, interns broke into small groups to again share information with veteran interns.

JSTMP coordinated both the Second Annual JITMT Intern Workshop in Japan on behalf of the Air Force Office of Scientific Research. Over 200 individuals, including 158 interns and 32 faculty and administrators from all 12 JITMT centers, attended the Second Annual one-day workshop held on July 29, 1995 at the Shin Yokohama Prince Hotel in Shin Yokohama, Japan. Dr. James Abegglen, Chairman of Gemini Consulting Inc., gave a presentation on Continuing Dynamism in the Japanese Economy. Intern panel discussions and small group discussions also occurred.

In 1996, over 160 interns and administrators from the twelve JITMT centers gathered in Yokohama for the Third Annual Intern Workshop. Individuals traveled from Hokkaido and Kyushu to attend the one day conference designed to help interns maximize their intern experience. Keynote speaker, Robert Orr, Jr., Director of Government Relations-Japan, Motorola, presented a talk on the 'Kabuki' of US-Japanese trade relations.

Over 130 individuals, including 99 interns and 24 administrators attended the Fourth Annual workshop held in Gifu, Japan on July 12, 1997. JSTMP also helped to coordinate this workshop. Mr. Michael Hegedus, Vice President of Asia Siecor International Corporation and the Chaiman of the American Chamber of Commerce in Japan, presented a talk on the importance of creating a cadre of Japan-knowledgeable US scientists, engineers, and technical managers for the US to remain competitive in the world market.

Mr. Lee Daniels, the President of Titus Communication, was the keynote speaker for the Fifth Annual Intern Workshop held in Yokohama on July 3-5, 1998. Foolowinf his speech, a panel addressed the problems of managing businesses in Japan. The workshop ended with a panel discussion on Japan related careers.

The 1999 Intern Workshop sponsored by JSTMP and JITMT Program was again held at the Shin-Yokohama Prince Hotel in Yokohama on June 18-19, 1999. This workshop was coordinated by the ten JITMT centers and the Utah Asian Studies Consortium's US-Japan Center. Interns traveled from Osaka, Tokyo and variuos other Japanese cities to attend this 2 day conference and participated along with administrators and veteran interns in lectures, panel discussions and small group activities.

In addition to planning these workshops, JSTMP collaborated with other centers to aide in the planning stages of other internship workshops.

Hosting of Students from University City Science Center for Summer Language Study

The University City Science Center sent students to attend JSTMP's Summer Intensive Japanese Language Training program in order to prepare them for an upcoming semester in Japan. Both centers were extremely pleased with the results of this partnership.

In addition to hosting students from other centers over the years, JSTMP also sent its interns to various seminars held at JITMT centers around the country. For example, three JSTMP interns participated inThe University of Texas at Austin's Aerospace Conference in Seattle, Washington in October, 1997.

II. Specific Data

The following information contains specific data related to JSTMP training and internship programs.

A. Japanese Language Training

The following language courses were generally made available during the summer and fall terms during the course of the grant. Course descriptions can be found in Appendix 1, "Detailed Description of Japanese Language Courses."

Summer
Intensive Beginning (First Year) Japanese (Pitt-regular track)
Intensive Intermediate (Second Year) Japanese (Pitt-JSTMP funded)

Fall
Technical Japanese (Pitt-JSTMP funded)
Japanese for Business II (CMU-JSTMP funded)

Japanese for Technical Management II (CMU-JSTMP funded)
First Year Japanese (Pitt-regular track)
Second Year Japanese (CMU-regular track)
Third Year Japanese (Pitt-regular track)
Fourth Year Japanese (Pitt-regular track)
Fourth Year Japanese (CMU-regular track)
Special Topics: Japanese (CMU-JSTMP funded)
Elementary Japanese for MBA (Pitt)
Basic Japanese Language 1 (Pitt-evening)

The following table gives a breakdown of the participants in JSTMP in 1993.

BREAKDOWN OF JSTMP PARTICIPANTS

PROGRAM	Industry	University	Government	TOTAL
A. Language				
First Year Intensive	1	3	0	4
Japanese for Business (CMU)	0	14	0	14
Japanese for Tech and Mgmt I (CMU)	0	7	0	7
First Year Japanese (Pitt)	0	1	0	1
Second Year Japanese (Pitt)	1	0	0	1
Third Year Japanese (Pitt)	0	1	0	1
Elementary Japanese for MBA (Pitt)	0	4	0	4
Intensive Jap. For Alcoa (Pitt)*	5	30	0	5
SUBTOTAL	7	30	0	37
B. Japanese Culture Course-Lecture Series	NA	NA	NA	42
C. Japanese Business Lecture Series	700	195	125	1020
D. Other Lectures				
DDI...Lecture I	30	50	0	80
DDI...Lecture II	0	100	0	100
Yankee Samurai	0	25	0	25
Management of Japanese Subsidiary	0	25	0	25
SUBTOTAL	30	200	0	230
E. Internships in Japan				
Extended Study Mission (1 year)	0	1	0	1
Student Exchange Program	0	2	0	2
Student Internship	0	11	0	11

Note: 1) *Not supported by JSTMP funds.

2) **Industry** includes participants who are either currently employed in the private sector of have left such positions to join the Program.
3) All JSTMP students who are currently at CMU'S Graduate School of Industrial Administration have at least three or four years of work experience.

The following table gives a breakdown of JSTMP participants in 1994.

BREAKDOWN OF JSTMP PARTICIPANTS

PROGRAM	Industry	University	Government	TOTAL
A. Language (Summer)				
First Year Intensive (Pitt)	0	6	0	6
Second Year Intensive (Pitt)	3	7	0	10
SUBTOTAL	3	13	0	16
Language (Fall)				
Japanese for Business II (CMU)	0	17	0	17
Japanese for Tech and Mgmt II (CMU)	0	7	0	7
First Year Japanese (Pitt) *	0	6	0	6
Second Year Japanese (CMU) *	0	1	0	1
Technical Japanese (Pitt)*	3	5	0	8
Third Year Japanese (Pitt)*	1	1	0	2
Third Year Japanese (CMU)*	0	2	0	2
Fourth Year Japanese (CMU)	0	2	0	2
Fourth Year Japanese (Pitt)*	0	1	0	1
Elementary Japanese for MBA (Pitt)	0	3	0	3
Basic Japanese Lang. 1 (Pitt;evening)*	0	3	0	3
Special TOPICS: Japanese (CMU)	0	4	0	4
SUBTOTAL	4	52	0	56
B. Japanese Culture Course	9	48	0	57
C. Ad Hoc Lecture Series				
Sachio Semmoto	0	43	0	43
Wayne McCulty	0	120	0	120
SUBTOTAL	0	163	0	163
D. Internships in Japan				
Extended Study Mission in Japan (1 year)	1	2	0	3
Extended Study Mission in Japan (6 months)	1	1	0	2
Summer Internship in Japan	0	11	0	11
SUBTOTAL	2	14	0	16

Note: 1) * Course not supported by JSTMP funds.
2) **Industry** includes participants who are either employed in the private sector or have left such positions to join the Program.
3) All JSTMP students who are currently at CMU's Graduate School of Industrial Administration have at least three or four years of work experience.

The following table gives a breakdown of the participants in JSTMP in 1995.

BREAKDOWN OF JSTMP PARTICIPANTS

PROGRAM	Industry	University	Government	TOTAL
A. Language (Spring)				
Japanese for Business I (CMU)	0	34	0	**34**
Tech Japanese I (CMU)	0	13	0	**13**
Intensive Japanese I (Pitt)	0	5	0	**5**
First Year Japanese (Pitt)*	0	35	0	**35**
Second Year Japanese (Pitt)*	0	20	0	**20**
Third Year Japanese (CMU)	0	12	0	**12**
Third Year Japanese (Pitt)*	0	9	0	**9**
Fourth Year Japanese (CMU)*	0	11	0	**11**
Fourth Year Japanese (Pitt)*	0	4	0	**4**
Elementary Jap. for MBA (Pitt)*	0	1	0	**1**
Basic Japanese Lang. 1 (Pitt; evening)*	1	7	0	**8**
SUBTOTAL	1	151	0	**152**
Language (Summer)				
First Year Intensive (Pitt)*	0	34	0	**34**
Second Year Intensive (Pitt)	0	4	0	**4**
SUBTOTAL	0	38	0	**38**
B. Japan Business Lecture Series	100	150		**250**
C. Japanese Culture Course	1	47	0	**48**
D. Ad Hoc Lecture Series				
Seiichi Kondo	18	12	0	**36**
Richard Samuels	0	36	0	**36**
Thomas Schott	0	7	0	**7**
SUBTOTAL	18	55	0	**79**
E. Internships in Japan				
Summer Internship in Japan	0	10	0	**10**
Mini-Trips	0	29	0	**29**
Robotic Trips	0	7	0	**7**
SUBTOTAL	0	46	0	**46**

Note: 1) * Course not supported by JSTMP funds and enrollment includes non-JSTMP students.
2) **Industry** includes participants who are either currently employed in the private sector or have left such positions to join the Program.
3) All JSTMP students who are currently at CMU's Graduate School of Industrial Administration have at least three or four years of work experience.

The following table gives a breakdown of the participants in JSTMP in 1996.

BREAKDOWN OF JSTMP PARTICIPANTS

PROGRAM	Industry	University	Government	TOTAL
A. Language (Spring)				
Japanese for Business I (CMU)	0	30	0	30
Tech Japanese I (CMU)	0	8	0	8
Technical Japanese I (Pitt)	1	4	0	5
First Year Japanese (Pitt)*	0	21	0	21
First Year Japanese (CMU)	0	53	0	53
Second Year Japanese (Pitt)*	0	18	0	18
Second Year Japanese (CMU)	0	25	0	25
Third Year Japanese (Pitt)*	0	8	0	8
Classical Japanese (Pitt)	0	9	0	9
Fourth Year Japanese (Pitt)*	1	3	0	4
Elementary Jap. for MBA (Pitt)*	0	6	0	6
Special Topics: Japanese (CMU)	0	3	0	3
Basic Japanese Lang. 1 (Pitt; evening)*	4	7	0	11
SUBTOTAL	6	195	0	201
Language (Summer)				
First Year Intensive (Pitt)*	1	16	0	17
SUBTOTAL	1	16	0	17
B. Japan Business Lecture Series	25	368	2	395
C. Japanese Culture Course	0	106	0	106
D. Ad Hoc Lecture Series				
Guenther Burkhard	5	30	1	36
Glenn Hoetker	1	24	1	26
T.W. Kang	4	30	0	34
Harris Liebergot	5	100	0	105
Ronald Morse	10	70	0	80
Randy Soderquist	0	6	0	6
SUBTOTAL	25	260	2	287
D. Internships in Japan				
Summer Internship in Japan	0	2	0	2
Long Term Internship in Japan	1	1	0	2
Mini-Trips	0	14	0	14
SUB TOTAL	1	17	0	18
GRAND TOTAL	**63**	**1111**	**4**	**1178**

Note: 1) * Course not supported by JSTMP funds and enrollment includes non-JSTMP students.
2) **Industry** includes participants who are either currently employed in the private sector or have left such positions to join the Program.
3) All JSTMP students who are currently at CMU's Graduate School of Industrial Administration have at least three or four years of work experience.

The following table gives a breakdown of the participants in JSTMP in 1997.

PROGRAM	TOTAL

A. Language (Fall 1996)	
First Year Japanese (Pitt)*	51
Second Year Japanese (Pitt)*	18
Intermediate Intensive Japanese (Pitt)	5
Third Year Japanese (CMU)	
Third Year Japanese (Pitt)*	13
Fourth Year Japanese (CMU)*	
Fourth Year Japanese (Pitt)*	12
Fifth Year Japanese (CMU)*	
Japanese for Business II (CMU)	
Elementary Jap. for MBA (Pitt)*	7
Basic Japanese Lang. 1 (Pitt; evening)*	8
SUBTOTAL	
Language (Spring 1997)	
Japanese for Business I (CMU)	9
Tech Japanese for Management I (CMU)	5
Technical Japanese 1 (Pitt)	4
First Year Japanese (CMU)*	
First Year Japanese (Pitt)*	34
Second Year Japanese (CMU)	
Second Year Japanese (Pitt)*	12
Third Year Japanese (Pitt)*	10
Fourth Year Japanese (Pitt)*	7
Classical Japanese (Pitt)*	5
Elementary Japanese for MBA (Pitt)*	5
SUBTOTAL	
Language (Summer)	
First Year Intensive (Pitt)	16
B. Japan Business Lecture Series	250
C. Japanese Culture Course	
D. Ad Hoc Lecture Series	
Hector Ponce	25
Matt Dixon	10
SUBTOTAL	25
E. Internships in Japan	
Long-Term Internship	5
Summer Internship in Japan	1
SUBTOTAL	6
GRAND TOTAL	487

Note: 1) * Course not supported by JSTMP funds and enrollment includes non-JSTMP students.
2) All JSTMP students who are currently at CMU's Graduate School of Industrial Administration have at least three or four years of work experience.

The following table gives a breakdown of the participants in JSTMP in 1998.

PROGRAM	TOTAL
A. Language (Fall 1997)	
Elementary Japanese 1st year (Pitt)	49
Elementary Japanese 2nd Year (Pitt)	19
Elementary Japanese 3rd Year (Pitt)	13
Newspapers and Periodicals (Pitt)	8
Intensive Japanese-1st Year (Pitt)	0
Intermediate Intensive Japanese (Pitt)	4
Advanced Japanese (Pitt)	0
Japanese for Business Managers I (CMU)	7
SUBTOTAL	100
Language (Spring 1998)	
First Year Japanese	14
Elementary Japanese 1st Year	33
Elementary Japanese 2nd Year	11
Elementary Japanese 3rd Year	6
Newspapers and Periodicals	8
Advanced Japanese	4
Japanese for Business Managers II	4
SUBTOTAL	80
Language (Summer)	
First Year Intensive	10
B. Japan Business Lecture Series	250
C. Japanese Culture Course	26
D. Ad Hoc Lecture Series	50
E. Internships in Japan	
Long-term Internship	4
Summer Internship	0
SUBTOTAL	4

The following table is a breakdown of the participants in JSTMP in 1999.

PROGRAM	TOTAL
A. Language (Fall 1998)	
First Year Japanese (Pitt)	5
Elementary Japanese 1st Year (Pitt)	57

Elementary Japanese 2nd Year (Pitt)	20
Elementary Japanese 3rd Year (Pitt)	4
Newspapers and Periodicals	5
Japanese for Business Managers I	3
SUBTOTAL	94

Language (Spring 1999)	
First Year Japanese (Pitt)	37
Second Year Japanese (Pitt)	12
Third Year Japanese (Pitt)	3
Japanese for Business Managers	3
Subtotal	55

Language (Summer)	
First Year Intensive (Pitt)	11
Intermediate Intensive (Pitt)	5
SUBTOTAL	16
B. Japan Business Lecture Series	70
C. Japanese Culture Class	35
D. Ad Hoc Lecture Series	125
E. Internships in Japan	
Long-term internships	4
Summer Internships	2

B. Training in Japanese Culture and Business Practices

Japanese Culture (Pitt): This course introduces participants to an array of topics about Japan by inviting guest lecturers to discuss their research on Japan-related topics. The material covered in this course is extremely diverse and draws upon Pitt's access to a substantial number of Japan specialists. The course was offered in the evening to allow participation by engineers and scientists from the corporate world. It also enrolls regular students from the

science and engineering disciplines who had no free time in the day for an elective course. Students are encouraged to take this course more than once as the topics and lecturers change each semester. The following is a sampling of the lectures that have been presented in the past:

LECTURE	SPEAKER	DEPT./ORG.
Introduction: Holidays and Traditions	Mr. Jonathan Wolff	Anthropology, Pitt
Major Themes in Japanese Culture	Dr. L. Keith Brown	Anthropology, Pitt
Natsume Soseki and the Meaning of Modernization	Dr. Thomas Rimer	East Asian Lang., Pitt
Women in the Work Force	Dr. Helen Hopper	History, Pitt
Demystifying Japanese Education	Dr. John Singleton	Anthro./Ed. Pitt
Japanese Funerals	Dr. Keiko McDonald	Lit. and Film, Pitt
Japanese Religion	Dr. Linda Penkower	Religion, Pitt
A School Excursion	Dr. Gail Benjamin	Anthropology, Pitt
Aesthetics of Courtship in the Heian Period	Dr. Brenda Jordan	Fine Arts, Pitt
Aging in Japan	Dr. Akiko Hashimoto	Sociology, Pitt
Everything You Wanted to Know about Japanese (language)	Dr. David Mills	East Asian Lang. , Pitt
Japanese Language	Dr. Hiroshi Nara	East Asian Lang., Pitt
Japanese Media and Politics	Dr. Ellis Krauss	Political Science, Pitt
Democratization in Pre-war Japan: the Origins of WW II	Dr. R. Smethurst	History, Pitt
Japanese Theater, A Reflection of Itself	Dr. Mae Smethurst	Classics, Pitt
Democracy in Pre-war Japan	Dr. Dick Smethurst	History, Pitt
What's going on in Japan's Economy	Dr. Thomas Rawski	Economics, Pitt
Gardens and Tea in Japan	Dr. Brenda Jordan	East Asian Lang.,Pitt
The Meaning of Lunch	Dr. Gail Benjamin	Anthropology, Pitt
Kato Shizue, One Hundred Years of Political Activism	Dr. Helen Hopper	History, Pitt
International Relations	Davis Bobrow	GSPIA, Pitt

Generally, JSTMP participants have had access to a variety of Japan-related courses in many academic departments. JSTMP students have registered for such courses as 'Japanese Society,' available in both the Sociology and Anthropology departments, 'Government & Politics of Japan,' in Political Science, and 'Social Structure of Contemporary Japan,' in the Sociology department at the University of Pittsburgh.

Other Courses Available to JSTMP Participants: JSTMP participants have had access to a variety of Japan-related courses in many academic departments. JSTMP students registered for courses such as *Japanese Society* in Anthropology, *Government and Politics of Japan* in Political Science, *Japanese Economic Growth* in Economics, and *Mass Society in Japan* in the Sociology Department of the University of Pittsburgh.

The Culture of Japanese Manufacturing Organizations: This seven week graduate level course offered at CMU provided students with a framework in which to understand Japanese manufacturing, relevant aspects of Japanese culture, and the relationship between them. An objective was to prepare a student who intends to work in Japan to function effectively in the workplace. The course provided sufficient background so that students could investigate Japanese culture on their own and relate such study to their understanding of how Japanese business functions.

The course was developed by Dr. Michael Kolar, Chairman, Department of Mechanical Engineering at Pitt; Dr. Sridhar R. Tayur, Associate Professor, Graduate School of Industrial Administration; and Professor John Wiss, Adjunct Professor, Carnegie Institute of Technology. It was made available to students at both Pitt and CMU as well as members of the business community of the greater Pittsburgh area. The course was offered in 1994 and 1995.

C. Japan Business Lecture Series

As mentioned above, JSTMP held the Japan Business Lecture Series each spring. The lecture series, open to the public, attracted members of the business and academic communities in the Western Pennsylvania area. Between 25-60 individuals attended each session. The series was provided with the support of the Japan External Trade Organization (JETRO) and JSTMP. Over the years, the series was hosted by CMU's Graduate School of Industrial Administration, the Carnegie Bosch Institute and JSTMP. The following is the breakdown of the 1993 through 1999 series which was funded by the grant:

1993:		
Session 1	February 3, 1993	**"Japan's Industrial Policy and its Implications"**
Speakers	Mr. H. Tsukamoto	President, JETRO, New York
	Mr. M. Eaton	Microelectronics and Computer Tech. Corp
Session 2	February 10, 1993	**"Japanese Manufacturing Inside High Tech Companies"**
Speakers	Dr. S. Kobayashi	Hitachi America, Ltd.
	Dr. S. Miller	Fujitsu Network Transmission Systems
Session 3	February 17, 1993	**"Steel Industry in the 1900s and Beyond"**
Speakers	Mr. Y. Fujitani	NKK America
	Dr. M. Madono	Alcoa
Session 4	February 24, 1993	**"Managing Japanese Corporation"**

Speakers	Dr. K. Kobayashi Dr. H. Kimura	SANNO Institute of Management Sophia University
Session 5	March 10, 1993	**"Japanese Automative Industry in the US"**
Moderator	Dr. R. Florida	H. John Heinz III School of Public Policy and Management
	Panelists from Japanese automobile companies in US	

Between 100 and 150 individuals attended each session in the 1994 Japan Business Lecture Series. The series was produced in partnership with the Japan External Trade Organization (JETRO) of New York. The theme of 1994's series was *Henkaku* (drastic change)., which reflected the torrent of changes affecting the economic and political climate of Japan at the time. The following shows the itinerary for the lecture series:

Session 1	January 20, 1994	**"Targeting Japanese Consumers: Opportunities and Obstacles"**
Speakers	Hiroshi Tanaka	Dentsu
	Masahiro Nagakubo	Sony

Session 1 was canceled due to a state-wide weather emergency.

Session 2	Feb.1, 1994	**"The Race to Develop High-Definition Television: Trilateral Competition Between Japan, US and Europe"**
Speakers	Dr. Ellis Kraus	University of Pittsburgh
		"Negotiating with the Japanese"
	Dennis Unkovic	Meyer, Unkovic & Scott
Session 3	Feb. 17, 1994	**"Political Changes in Japan"**
Speakers	Yoshinori Okuda	Nihon Keizai Shimbun
Session 4	Feb. 11, 1994	**"Business Communication in Japan"**
Speakers	Kunihiko Fukuda	General Foods
		"Strategic Alliance For Export to Japan"
	Makiko Yamada	YMI International
Session 5	Feb. 24, 1994	**"Changing Role of Japanese Men"**
Speakers	Juichi Takeuchi	Nomura Securities Int.
		"Changes in Japanese Politics"
	Gerald Curtis	Columbia University
Session 6	March 10,1994	**"Changing Role of Japanese Woman"**
Speakers	Michiko Widigen	Monteray Inst. of Int. Studies
		"Change and Restructuring in Japanese Manufacturing Industries"
	Dr. Naoya Yoda	Toray Corp. Business Research, Inc.

Additionally, as an extension of the series, two workshops were offered at CMU by the Kongoh School of NOH of Kyoto, Japan.

Five sessions of the *Japan Business Lecture Series* were held between January and March, 1995. The *JBLS* continues to draw its audience from JSTMP participants, other students, faculty, corporate and other interested individuals from the Western Pennsylvania region. Between 40 and 60 individuals attended each session. This series was again offered in cooperation with the Japan External Trade Organization (JETRO) of New York.

The theme of this year's series was *Yuugoo* (harmony), which was reflected in the talks given as noted below:

Session 1 Jan. 24, 1995	**"Japan-Related Business Development: Management Challenge"**	Kazuyoshi Murase Murase Associates, Inc.
Session 2 Feb. 15, 1995	**"Contribution to Take-Off-Shosha in S.E. Asia Since the Mid 1970's"**	Mark Hashizume Tomen America
	"The Rise of Asia & Prospects for US-Japan Harmony"	Robert Trice Center for Strategic International Studies
Session 3 Mar. 1, 1995	**"Harmony and Competition in Mitsubishi"**	Katsuo Terao Mitsubishi Engine, N.A.
	"Matsushita's Global Strategy-Asia and North America"	Kunio Nakamura Matsushita
Session 4 Mar. 15, 1995	**"Conducting the APEC Choir: Can Japan Keep Them in Harmony"**	Hironobu Shibuya Pacific Basin Partners, Inc.
	"Analysis of Human Resources and Public Relations Management Between Asian Countries"	Takeshi Sato OKI America
Session 5 Mar. 29, 1995	**"America's Role in the Pacific Rim Community" Since the Mid 1970's"**	Sadahei Kusumoto Minolta
	"A New U.S.-Japan Relationship of the Asia-Pacific Age"	Yoshi Tsurumi Baruch College

1996:

Four sessions of the *Japan Business Lecture Series* were held February through April 1996. Between 50 to 100 individuals attended each session; there were over 150 people in attendance for the first session. This series was again offered in cooperation with the Japan External Trade Organization (JETRO) of New York.

The theme of this year's series was **"Teamwork,"** which was reflected in the talks given by the speakers noted below:

Session 1 Feb. 17, 1996	Mayor Tom Murphy	Pittsburgh Mayor
	Mr. Carl Yankowski	President & COO Sony Electronics, Inc.
	Mr. Thomas Hutton	Operating Manager Pratt & Whitney
	Mr. Yoshio Oba	General Manager Shin-Gijutsu Co., Ltd.
Session 2 Feb. 28, 1996	Mr. Takeshi Okatomi	Chairman & CEO Toshiba America, Inc.
	Mr. Masayuki Yamamoto	Chairman America Yazaki Corp.
Session 3 Mar. 13, 1996	Mr. Jeff Kennard	Director Xerox Corporation
Session 4 April 3, 1996	Mr. Dennis Unkovic	Attorney Meyer, Unkovic & Scott

1997:

Five sessions of the *Japan Business Lecture Series* were held from February through April 1997. The *JBLS* continues to draw its audience from JSTMP participants, students, faculty, corporate representatives and other interested individuals from the Western Pennsylvania area. Approximately 50 individuals attended each session. This series was again offered in cooperation with the Japan External Trade Organization (JETRO) of New York.

The theme of this year's series was **"Customer First,"** which was reflected in the talks given by the speakers noted below:

Session 1 **"Customer Service Across Cultures"**

Feb. 19, 1997		
	Dr. Douglas Dunn (Welcome Address)	Dean, Carnegie Mellon Univ. Graduate School of Industrial Admin.
	Dr. Edward Lincoln	Brookings Fellow & former Chief Economic Advisor to Ambassador Mondale in Tokyo
	Dr. Harris Liebergot	Executive Director, US-Japan Center, Univ. City Science Center & former Exec. Managing Director, Unisys, Japan
Session 2 Feb. 26, 1997	**"Hi-Tech Customer Service"**	
	Dr. Sunder Kekre (Welcome Address)	Director, Carnegie Mellon Univ. JSTMP Program
	Dr. Steve Miller	Chief Technical Officer, RWD Technologies
	Mr. Yuji Imai	Fujitsu Corporation
Session 3 Mar. 12, 1997	**"Exporting Customer Service: A Retailer's Perspective"**	
	Mr. Dennis Unkovic (Welcome Address)	Partner, Meyer, Unkovic & Scott
	Ms. Katherine Barchetti	Owner, K. Barchetti Shops
	Ms. Rona Tison	Executive Vice-President, Felissimo Universal Corp. of America
Session 4 Mar. 19, 1997	**"Customer Service in a Changing Economy"**	
	Dr. William Presutti (Welcome Address)	Duquesne Univ. School of Business
	Dr. Arthur Alexander	President, Japan Economic Institute
	Mr. Masami Atarashi	Vice-President & Representative Director, Philips, Japan, Ltd.
Session 5 Apr. 2, 1997	**"Nations as Customers: Trade Issues Facing the US & Japan"**	
	Dr. Marjory Searing	Deputy Assistant Secretary for Japan, US Department of Commerce

1998:
Five sessions of the Series were held from February 12 through April 3, 1998. Approximately 50 individuals attended each session.

The theme of this year's series was "Japan's New Role in a Changing Asia," which was reflected in the talks given by the speakers noted below:

Session 1	Feb. 12, 1998	**"Japan's New Role in a Changing Asia"**
Speakers	Dr. Harold Paxton	US Steel Professor-CMU
	Mr. Fujio Ono	NKK Steel America, Inc.
Session 2	Feb. 26, 1998	**"International Development"**
Speakers	Ms. Laura Deak	Dept. of Economic Dev. Allegheny County
	Mr. Kazuniri Iizuka	JETRO, New York
	Mr. John Thornburgh	President, Penn's Southwest Assoc.
Session 3	March 12, 1998	**"Development and the Asian Economic Crisis"**
Speakers	Mr. Stuart Sutin	Int'l Banking Dev.,Mellon Bank
	Dr. Shinichi Ichimura	Direstor, Int'l Center for the Study of East Asian Development (ICSEAD)
	Dr. William James	Chief, Research Division, ICSEAD
	Dr. Kazutami Yamazaki	Editor, *Washington Watch*
Session 4	March 19, 1998	**"Woman in the Asian Workplace"**
Speakers	Dr. Audrey Murrell	University of Pittsburgh
	Ms. Beate Sirota Gordon	Author, "Equal Rights for Woman" clause of the Japanaese Constitution
	Ms. Janet Sargent	President, Sargent Consulting Services
	Ms. Akiko Machimoto	University of Pittsburgh
	Ms. Margie Yeh	Taiwan Business Bank
Session 5	April 3, 1998	**"The Asian Turmoil and Japan's Response: Creating a New Vision for the 21st Century"**
Speakers	Mr. Prescott Wintersteen	International Sales Respironics, Inc.
	Mr. Toshiharu Kato	Ministry of International Trade and Industry

Three lectures were presented by the Japan America Society of Pennsylvania and JSTMP as part of the continuing *Japan Business Lecture Series*. Approximately 25-40 individual attended each seminar representing students, faculty, and local corporations.

Session 1	March 5, 1999	**"Shifting Alliances: Survival Tactics Take Precedence in Japanese Politics"**
Speakers	Barbara Wanner	Japan Economic Institute of America
Session 2	September 9, 1999	**"Japanese and American Cooperation in Computer Science"**

Speakers	Dr. Rahul Sukthankar	Just Research, Inc.
Session 3	October 20, 1999	**"Woman in the Japanese Labor Force"**
Speakers	Mariko Fujiwara	Hakuhodo Institute of Life and Living, Inc.
	Yosie Ota	President, Japanese Institute of Worker's Evolution

D. Field Trips and Studies

1. Visit to Honda and General Motors Plants

In October and November 1997, approximately two hundred students from Carnegie Mellon's Graduate School of Industrial Administration (GSIA) visited the manufacturing facilities of both Honda (located in Murrysville, Ohio) and General Motors (located in Lordstown, Ohio). The purpose of the trip was to compare and contrast the manufacturing technologies and practices of Japanese and US automotive factory operations. The students spent approximately four hours touring each facility, and afterwards, they had interactive discussions with plant managers and supervisors.

2. Field Studies of Xerox and Canon

During the fall of 1997 and spring of 1998, two faculty members and eight students from Carnegie Mellon's GSIA conducted field study research with Canon and Xerox at their manufacturing operations in Japan, Mexico, and the US. The purpose of the research was to compare Japanese and American manufacturing operations within the copier industry. Canon and Xerox were selected for the research because they represent Japanese companies with completely different organizational structures. While Canon is traditionally very centralized, Xerox is divided into three regional companies. Hence, their organizational structure has various strategic implications which affect their profitability.

3. Field Trip for *Bunraku* Performance

On November 8, 1997, JSTMP sponsored a field trip to the Cleveland Museum of Art for the program interns. They viewed the Japanese collection on display at the museum, and in the evening, the students attended a *banraku* performance by the Awaji Puppet Troupe. The event was sponsored by the Japan Society of Cleveland.

4. Case Study Competition

On April 2-5, 1998, a case study competition was conducted at Carnegie Mellon's GSIA. The focus of the competition was the Japanese approach to just-in-time (JIT) manufacturing. Twenty-five students from CMU's Operations Club participated in the event, and the judges' panel was comprised of representatives from Ford Motor Company, Siemens, and Harley Davidson--US companies that have made substantial investment in the implementation of JIT techniques. The students were presented with "real-world" situation which had no prescribed solution from Ford Motor Company. They were allotted a specific period of time to develop a strategy that would address the problem and presented it to the judges' panel for evaluation and final selection of the winning strategy.

E. Ad hoc lecture series

Individuals with significant Japan experience were invited to give talks of interest to JSTMP participants. These topics ranged from industrial policy to personal experiences. The following lectures were presented over the term of the grant:

Dr. Sachio Semmoto, founder and Senior Vice-president of DDI Corporation, spoke about "DDI: ITS Past Record and Future Strategy" to a group of 75 individuals representing faculty and students from Pitt and CMU, and area corporations. On a second occasion, 100 Master's of Science of Industrial Administration students were addressed during a corporate strategy class.

Dr. Dennis Laurie. "Yankee Samurai." Dr. Laurie, a research fellow at the Drucker Graduate Management Center, spoke before 25 members of the faculty and student bodies of Pitt and CMU. The discussion centered on his findings concerning management practices at Japanese firms operating in the United States, particularly from the perspective of American executives.

Mr. Sadaharu Honda. "The Management of a Japanese Subsidiary in the U.S." Mr. Honda, the Chairman of MKK Technologies Inc., a subsidiary of Japan's Maeda Corporation, spoke before 25 individuals on the decision making and working environment of that firm. Also covered were some of the culturally based problems concerning differences in expectations between Japanese employers and American employees. Mr. Honda was an Executive in Residence at the A.J. Palumbo School of Business Administration at Duquesne University, and author of Business Strategies to Win in the American Market, and Business Know-How to Succeed in America.

Dr. Chalmera Johnson, recently retired ROHR Professor of Pacific International Relations, Graduate School of International Relations and

Pacific Studies at the University of California, San Diego, discussed the nature of the Japanese economic system and how it differs from that of the United States.

Jade Goldstein, a CMU Computer science graduate, gave a candid account of her experience as an intern for a year and a half at Hitachi Central Research Center in Japan. This talk was particularly aimed at woman who were planning to do internships at Japanese research facilities. She focused on the kinds of conditions a woman might encounter and offered advice on preparations that could make internships go more smoothly.

Yoshifumi Beppu, Strategic Planning Manager of Mitsubishi Electric Power Products, Ltd. , gave a talk to JSTMP participants about working in a cross-cultural engineering environment. Mr. Beppu discussed some of the differences between the working styles of American engineers and their Japanese counterparts. He also covered some of the problems that may arise when American are placed in a Japanese environment, and gave suggestions as to how these problems may be avoided or resolved.

Dr. Akimasa Mitsuta, official of the Ministry of Education of Japan, and a Visiting Professor of the School of International Studies of the University of California, San Diego, and Obirin University, Japan, gave a talk entitled "Education & Society in Japan" and answered questions regarding that topic.

Mr. Hiroshi Ando, a Visiting Research Fellow at the Japan Economic Institute, gave an informal colloquium on the subject of "Prime Minister Hosokawa and Political Reform in Japan,." Mr. Ando is a former Asahi newspaper reporter, and former colleague and friend of Prime Minister Hosokawa. He was an informal advisor during the formation of the new political part and bid for the Prime Ministership. Mr. Ando is the author of "Nichibei Johoh Masatsu" (US-Japan News Friction), a book about journalism's coverage of the US-Japan relationship, and many articles about political reform and Japanese journalism in major journals and magazines in Japan.

Mr. Yutaka Yoshizawa, Deputy Consul General from the Japan Information Center of New York, spoke on "Japan and the United States: Facing the Challenges at Home and Abroad".

Dr. Sachiop Semmoto, President of the DDI Pocket Telephone Co., gave a lecture on emerging telecommunication technology and its marketing in Japan.

Mr. Wayne E. McNulty, Purchasing Assistant Manager, Honda of America MFG., Inc. gave a lecture emphasizing how Honda manages suppliers, relating to the concept of Total Quality Management.

Mr. Seiichi Kondo, Counselor for Public Affairs, The Embassy of Japan to the United States, spoke about "The Destination of US Japan Relations: A Look at Technology and Science" at a luncheon with a group of University and business leaders.

Dr. Richard J. Samuels, Ford International Professor & Chair of Political Science, Massachusetts Institute of Technology, presented a lecture entitled "Technology and National Security in Japan." Dr. Samuels provided valuable information on how Japan's technological advances affect both US and Japan security.

Dr. Thomas Schott, University of Pittsburgh Associate Professor of Sociology, presented a lecture on "Scientific and Technological Growth in East Asia" and demonstrated Japan's increase in scientific publications as well as growth in other areas.

Dr. Guenther Burkhard, a visiting scholar from MIT who earned his PhD from the Tokyo Institute of Technology, spoke about "International Technology Management -- Competition and Cooperation: The US, Japan and Germany" at a lecture on November 30, 1995. The talk was attended by students and professionals from the Pittsburgh area, including students and faculty from the University of Pittsburgh, Carnegie Mellon University, as well as individuals from international law firms and other Pittsburgh-based companies.

Dr. Burkhard met individually with faculty and professionals in the Pittsburgh area who are involved with technology management and met informally with JSTMP students to share some of his personal experiences of living in Japan.

Mr. Glenn Hoetker, Trade Specialist for Dewey Ballantine, presented a lecture on March 14, 1996, entitled "Japanese Information: Applications for Business and Industry." Mr. Hoetker provided valuable information on acquiring and using Japanese information.

Mr. T.W. Kang, Managing Director for Global Synergy Associates, presented a lecture on "Keys to Success in the Japanese Market" on October 27, 1995. He addressed questions about what the Japanese market is, what type of commitment is required for success in the Japanese market, and what type of balance needs to be maintained between Japan and the United States.

Dr. Harris Liebergot, Executive Director of the University City Science Center US-Japan Center, presented a lecture on the "Factors Influencing Business in Japan -- The Computer Software Industry" on November 6, 1995. Dr. Liebergot also met informally with JSTMP students to share his experiences of living in Japan.

Dr. Ronald Morse, Director of International Projects of the Office of Institutional Advancement at the University of Maryland, presented a talk on "Asia's Knowledge Revolution: The Key is Japanese Sources" on November 6, 1995, for the official opening of the Pittsburgh Japan Information Center. Dr. Morse pointed out characteristics of Japanese information, that it is practical, detailed, accurate and organized, making it an invaluable information source. He noted that an incredible amount of information is available to the person who can read Japanese.

Mr. Randy Soderquist, Program Manager for the Japan Program, National Science Foundation, presented an informational session to JSTMP students on "Fellowship Opportunities for Graduates and Post-Doctoral Students in Science, Engineering & Biomedical Fields" on December 8, 1995.

Mr. Hector Ponce, President of Westinghouse Electric, Asia S.A.-Japan, spoke about "How to Make Japanese Language Study Work for You" at a lecture on August 20, 1996. Prior to becoming President of Westinghouse Japan, Mr. Ponce served as the Managing Director of Power Generation-Japan in the Power Systems International Division of Westinghouse. He received his BS in Engineering from Steven's Institute of Technology and later attended the University of Pittsburgh and the Kobe Language School to study Japanese. Mr. Ponce's talk was attended by 25 students and professionals from the Pittsburgh area.

Mr. Matt Dixon, a doctoral candidate in the University of Pittsburgh's Graduate School of Public and International Affairs, spoke about his summer JSTMP-funded research trip to Japan in which he studied the Japanese aerospace industry. While in Japan, Matt met with the leaders of many airlines and parts suppliers to research the development and manufacture of the 777 commercial transport, a joint project between Boeing and MHI, KHI and FHI. Matt's talk was attended by ten JSTMP students and faculty members.

Mrs. Beate Sirota Gordan, author of the book, "Present at the Creation: The Bill of Rights for Woman in the Constitution of Japan," lectured on her experiences as the author of the woman's rights clause of the Japanese Constitution in post-war Japan.

Mr. Eisuke Sakakibara, Vice Minister for International Affairs, Ministry of Finance, Japan, presented two talks in Pittsburgh. His first talk was sponsored by the University of Pittsburgh's Economics Department and Asian Studies Program and was entitled, " Is There a Viable Alternative to Anglo-American Capitalism: Reflections on the Japanese Experience." Later in the day, Mr. Sakakibara spoke at the Duquesne Club and his speech was entitled, "Japan's Financial 'Big Bang' and its Potential Impact on the Japanese and World Economies."

Dorcas Jenkins, of the University of Pittsburgh, delivered a lecture entitled, "Gaijun in Japan."

Okira Nakamura, of the Meiji University, lectured on the current political environment in Japan. This event was sponsored by the Asian Studies Program of the University of Pittsburgh.

John Tate, of the University of California at Berkeley, delivered a lecture on production innovation in Japan.

A current view of the market was offered by Gary Konop, the U.S. Consulate to Nagoya, Japan and by Jonathan Wolff, the current JSTMP Director at the University of Pittsburgh.

F. Other Resources

1. Pittsburgh Japan Information Center

The Pittsburgh Japan Information Center at the University of Pittsburgh is a source of Japanese information-technical and otherwise- to those in the Pittsburgh are. The Center's resources include Japanese Government documents, economic reports, public opinion polls, as well as rapid access to the Japan Information Network (JIN) database located in Tokyo. Professional, full-time staff in Pittsburgh are available to assist with information research.

2. Japan America Society of Pennsylvania

The Japan-America Society of Pennsylvania (JASP) is a local organization which serves to promote understanding between American and Japanese through its various programs and events. Interns are invited to attend all JASP sponsored events. The diversity of JASP Programs can be seen in such offerings as The Theatre of Yugen, a repertoire of Kyogen and Noh theater, and the Business Lecture Series.

G. Internships

One of the major goals of the JSTMP program was to place our students in a field-related internship in Japan after their intensive language training. To that end, administrators made the following trips in an effort to secure these positions , with the following results:

1993:

Trips to Japan by Administrators

American Electronics Association
Japan External Trade Organization
National Science Foundation
Mitsui Interbusiness Research Institute
Chiyoda Corporation
DDI Corporation
NTT Data Information Systems
Fujitsu, Ltd.
Hitachi, Ltd.
Toshiba, Ltd.
Matsushita Electric Industries
Matsushita Electric Corporation
Kaneda Kikai Seisakusho
Komatsu
Yasukawa Electric Corporation
Nissan Motor Co., Ltd.
Toyota Motor Corporation
Esso Sekiyu K.K.
Toray Corporate Business Research
Kyocera
Taisei Corporation
Mitsubishi Heavy Industries
Ricoh Company, Ltd.
Fuji Bank
Weyerhaeuser Japan, Ltd.
BF Co., Ltd.

The following summer and extended internships were also obtained as a result of the trip:

Internship Placements

ORGANIZATION	INDIVIDUAL	TYPE
BF Co., Ltd.	Mark D'Costa	Summer
Kyocera Corp.	Edward Cho	Summer
Toshiba Corp.	Jeffrey Arnold	Summer
	Akashaya Parikh	Summer
Fujitsu	Jaydeep Chitnis	Summer
Mitsubishi Electric Corp.	Douglass Gilbert	Summer
Yasukawa Electric	Mark Huber	Summer
	Martin O'Donnel	Summer
Fuji Bank	Arthur Barry	Summer
NTT Data Information Systems	Scott Draves	Summer
Hitachi	Pierre Rafiq	Summer
DDI Corporation	Kurt Lammon	One year

The above participants were required to work with a faculty advisor to write and make a presentation about their experiences in Japan. Each student was given a theme for his or her report.

1994:

Trips to Japan by Administrators

National Science Foundation
Environmental, Science and Technology Affairs Office, US Embassy
Japan Institute of Labor
Japan External Trade Organization
Chiyoda Corporation
DDI Corporation
NTT Data Information Systems
Fujitsu, Ltd.
Hitachi, Ltd.
Toshiba, Ltd.
NEC
Nippon
Nihon
TRW
Ishikawajima

NKK
TYK
Nippon Steel
Nippon Yakin Kogyo
Sumitomo Metal
Kyocera
Mitsubishi Kasei
Taisei Corporation
Fuji Bank
Bank of Tokyo
BF Co., Ltd.
ALC Press
Aoyama Gakuin University

Internship Placements

The following individuals were placed within Japanese organizations in Japan to perform internships.

ORGANIZATION	INDIVIDUAL	TYPE
BF Co., Ltd.	Carl Urich	Summer
Chiyoda Corporation	Teresa Fong-Yang	Six months
DDI Corporation	Kurt Lammon**	One year
Fuji Bank	Michael Dubicz	Summer
Fujitsu	Christoff Gusenleitner*	Summer
Hitachi	Timothy Styslinger	Summer
	Jonathan Oh	Summer
Kyocera Copr.	Jan Blackburn	Summer
NTT Data Information Systems	Russ Vanderpool	One year
Sony Corporation	Lawrence Arnstein	One year
	Supat Ratanasirivilai*	Summer
	Susan Miller	Six months
Toshiba Corp.	TBD	Summer
TYK Corporation	Raj Mirchandani	Summer
Wells Fargo Nikko	TBD	Summer
Yaskawa Electric Corp.	David Ebling	Summer

* Not financially supported by JSTMP
** Continued form last year

Study Mission
Aoyama Gakuin University in Tokyo allowed one student from CMU to participate in certain management courses during the month of March, 1994. These courses, known as The International Management Game and Financial

Analysis and Securities Trading, were held at the Aoyama Gakuin campus and were part of a collaborative project between CMU and Aoyama Gakuin.

1995:

Trips to Japan by Administrators

Aoyama Gakuin University
Chiyoda Corporation
DDI Tokyo Pocket Telephone Inc.
Fuji Bank
Fujitsu Numazu Facility
Hitachi Ltd.
Ishikawajima-Harima Heavy Industries
Japan External Trade Organization (JETRO)
Japan Center for Intercultural Communications
Kyocera Corporation - Yokohama Office
Mitsubishi Heavy Industries
N.B. Investment Technology Co., Ltd.
NTT-Data Communications Systems Corp.
Toshiba Corporation
TYK Corporation
Yaskawa Electric Corporation

In addition, groundwork was laid for the JITMT Intern Workshop. The keynote speaker, Dr. Abegglen, some panelists and the Shin Yokohama Prince Hotel were visited.

Internship Placements

The following individuals were placed within Japanese organizations in Japan to perform internships. The internships started in the beginning of June and ended in the middle of August.

ORGANIZATION	INDIVIDUAL	TYPE
TYK Corporation	Bryan Glass	Summer
	Vladimir Agoshkov	Summer
Hitachi Corporation	John Chen	Summer
Fujitsu	Raymond Fajardo	Summer

Kyocera Corporation	Ki Lim	Summer
Hitachi Data Storage & Retrieval Systems	Ahmet Yetis	Summer
Toshiba Corporation	Peter Berkelman	Summer
Fuji Bank	Jennifer Deguzman	Summer
NTT Data	James Rankin	Summer
BARRA, Inc.	Chung Bin Kim	Summer

1996:

Trips to Japan by Administrators

In addition to attending the JETRO/MITI Roadshows, JSTMP Program Managers and Director went to Japan to observe how JSTMP interns were performing, to seek additional placements for future internships, and to maintain relationships with host companies. The following organizations were visited:

Aoyama Gakuin University
Chiyoda Corporation
Japan Center for Intercultural Communications
Nippon Automation Co., Ltd.
NTT-Data Communications Systems Corp.
Sanyo Electronics Co., Ltd.
Toshiba Corporation
University of Library and Information Science

Internship Placements

The following individuals were placed within Japanese organizations in Japan to perform internships:

Organization	**Individual**	**Type**
Chiyoda Corporation	Joseph Cupani	Six month
Nippon Automation Co., Ltd.	James Urso	One year

NTT Data Communications Systems Corporation	Howard Gobioff	Summer
Fuji Bank	Scott Park	Summer

1997:

During the 1997 Roadshows, Program Directors attended all five meetings in Kumamoto, Osaka, Kanazawa, Tokyo and Koriyama. JSTMP Director, Jonathan Wolff, gave the JITMT representative address to the audience in Kanazawa.

Four JSTMP interns submitted applications during the 1996 matching process and all were placed in internships. That year, approximately six interns submitted applications through the JETRO internship matching process.

Trips to Japan by Administrators

In addition to attending the JETRO/MITI Roadshows, the JSTMP Program Manager and Director went to Japan to observe how JSTMP interns were performing, to seek additional placements for future internships, and to maintain relationships with host companies. The following organizations were visited:

Aoyama Gakuin University
Fuji Bank
Japan Center for Intercultural Communications
Kao Corporation
Mitsubishi International Corporation
NTT-Data Communications Systems Corp.
Oji Paper Co., Ltd.
Philips, Japan, Ltd.
Rimnet Corporation
Sanyo Electronics Co., Ltd.
Softopia Japan Center
Techno Growth House
Toshiba Corporation
University of Library and Information Science
Yaskawa Electric Co., Ltd.

Internship Placements

The following individuals were placed within Japanese organizations in Japan to perform internships:

Organization	Individual	Type
Kao Corporation	Andrew Drazdik	One Year
Yaskawa Electric Co., Ltd.	Graham Hill	Two Years
Oji Paper Co., Ltd.	Alison Kuremsky	One Year
Sanyo Electric Co., Ltd.	Robert Rose	One Year
University of Library and Information Science	Kristina Vassil	One Year

Reports from these interns have been included in previous Program Status Reports.

1998:

Trips to Japan by Administrators

In addition to attending the JETRO/MITI Roadshows, the JSTMP Program Manager and Director went to Japan to observe how JSTMP interns were performing, to seek additional placements for future internships, and to maintain relationships with host companies. The following organizations were visited:

Japan Center for Intercultural Communications
Japan Knowledge Industry, Co., Ltd.
Kyoto Research Park-Science Center International
Kyoto Townscape Management Center
Ministry of International Trade and Industry (MITI)
Mitsubishi Electric Corporation
Mitsubishi Kinyokai
Omron Corporation
Toshiba Corporation
Yaskawa Electric Co., Ltd.

Internship Placements

The following individuals were placed with Japanese organizations to perform internships:

ORGANIZATION	INDIVIDUAL	TYPE

Japan Knowledge Industry	Rafe Campbell	One year
Kyoto Townscape Center	Penelope Kleigman	Six months
Kyushu Electric Power	Mark Harris	Two months
MITI- AIST	Penelope Kleigman	One month
Mitsubishi Electric Corp.	Jeff Misage	Three months
Nippon Electric Company	Robert Rumpf	One year
Omron Corporation	Jeff Misage	Six months
Yaskawa Electric Co., Ltd.	Vahe Mamikunian	One year

Long-term interns submitted monthly reports, and upon completion of their internships, submitted final reports regarding their personal and professional experiences.

It should be noted that two of the interns placed in internships in 1997 have extended their internships and are still in Japan.

1999:

Trips to Japan by Administrators

The JSTMP Program Director went to Japan in June of 1999 to observe how JSTMP students were performing in their internships and to develop and/or maintain relationships with Japanese host companies. The following organizations were visited:

Toshiba Corporation Headquarters
Toshiba Kansai Research Center in Kobe
Soken Chemical and Engineering Company
Sony Semiconductor
NTT Communicationware
Oki Electric Industry Company
Mitsubishi

Internship Placements

During the 1998-99 JETRO matching process, five interns submitted applications through JETRO. One application was submitted through the efforts of the JSTMP Program at the University of Pittsburgh. All six were able to finalize internship placements. As part of JSTMP, these six interns attended a series of lectures designed to educate students on Japanese customs in areas such as manners, work situations, food, travel, and gender issues. The following interns were placed in Japanese organizations:

ORGANIZATION	INDIVIDUAL	TYPE
NTT Communicationware	Blythe Dunham	Summer
	Andrew Church*	Six months
Matsushita Electric Ind.	Timothy Machuga	Summer
Toshiba	John Bumbera	One year
Soken Chemical and Engineering	Sylvia Erdie	Six months
Zexel Corporation	Amy Painter	Six months

* Andrew Church has been offered and has accepted a position with NTT Communication Ware to begin after his internship period.

From our students' standpoints, the internship program proved to be the perfect ending to their Japanese language training experience. Many of the past JSTMP interns are now working in their chosen fields, and most are working closely with Japanese counterparts to ensure the flow of technology transfer.

III. SUMMARY

The Japanese Science and Technology Management Program has provided tremendous resources to define and expand many pre-existing programs at the University of Pittsburgh and at Carnegie Mellon University. During the initial two-year grant period, JSTMP developed new programs relevant to meeting the program's goals and objectives in improving American understanding of Japanese industrial and technology management and has continued to support these programs through the period of the second grant.

Our main task now at JSTMP is to ensure that the program survives well into the future. We look forward to building a sound structure of financial support from the private sector as our AFOSR grant comes to a close. We believe that one of the most salient features of the program was our ability to administrate the project with a very small staff, thus leaving the bulk of funding open for program activities. This also allowed the JSTMP program to provide financial support to our students, thus encouraging high-caliber individuals to participate. The program also provided numerous opportunities for the local business community to participate in course work, seminars and lecture series. JSTMP has brought greater visibility to the study of Japan and has shown U.S. scientists and engineers the opportunities which exist for them across the Pacific.

At JSTMP, we believe that the more experience gained in training the next generation of international scientists and engineers, the more capable we will become in improving the American understanding of Japanese industrial and technology management. Through incorporating feedback from JSTMP alumni, monitoring the progress of our current students, and analyzing our role in the corporate community, we continue to improve this understanding as we progress into the twenty-first century.

Appendix 1:
Japanese Language Class Information

Language courses added and developed for the Japanese Science and Technology Management Program.

First Year Intensive Japanese (Pitt; Summer): Students in this 10-credit introductory Japanese language course complete one full year's worth of language study in one 8-10 week term.

Students in this course are divided into small practice groups for 15 of the 25 class hours each week. This is the same ratio used in the regular (non-intensive), 5-credit courses. The recitation, or drill sessions, conducted by native Japanese teaching assistants, are exclusively in Japanese. The teaching assistants have been specially trained in the method of communicative based instruction. In addition, there are five one hour lectures per week where grammar, phonology, and sociolinguistic aspects of the language are explained (in English). Another five hours is spent in the language laboratory.

The main text is Japanese: The Spoken Language by Jorden and Noda. In addition to the phonology, basic vocabulary, and essential sentence patterns, students in First Year Intensive Japanese learn to read and write katakana and hiragana syllabary, and approximately 75 kanji characters.

Second Year Intensive Japanese (Pitt; Academic Year): The group of JSTMP students who completed First Year Intensive Japanese during the summer term entered Second Year Intensive Japanese classes in the subsequent fall term.

Second Year Intensive Japanese, which operates much the same way as its forerunner, continues to emphasize communicative competence in the aural/oral skills while developing the ability to read and write modern Japanese. This includes the introduction of more complex grammatical structures and idiomatic expressions, along with approximately 200 additional written characters. The main text, Japanese: The Spoken Language, is supplemented with discussions of the language, social interactions, and other aspects of Japanese culture.

This accelerated pace of instruction enables scientists and engineers (as well as other students) to finish two years of language acquisition in just eight months. At the end of this period scientists and engineers will have achieved basic conversational and reading skills, and will be ready to take advanced courses such as Technical Japanese that will prepare them to read technical documents in their fields and undertake productive internships in Japan.

Technical Japanese (Pitt; Academic Year): The group of JSTMP students who completed Second Year Intensive Japanese in the fall term entered Technical Japanese in the subsequent spring term.

Technical Japanese, the JSTMP alternative to Advanced Japanese, comes at the third year of the normal language program. It is designed for the specific needs of science and engineering students and aims to develop broad competency in reading as well

as speaking and comprehension. In addition to completing the remaining six chapters in Japanese: The Spoken Language, readings from general science and engineering texts are employed. The technical Japanese series was designed by Dr. David Mills who is well known for his work as the Director of MIT's Technical Japanese Language Project.

The following two courses, available at Carnegie Mellon University, make it possible for participants with tight schedules to study Japanese at an accelerated pace.

Japanese for Technology and Management II (CMU; Fall). Ten hours a week for fourteen weeks of class instruction and recitation. Provides integrated instruction across the four skill areas with an emphasis on the development of speaking, listening, and writing skills (especially kanji) as well as an introduction to technical Japanese. Lectures on Japanese society, business, government and culture, as well as technical topics appropriate to the students are provided. A computer-assisted module provides the opportunity to practice and apply material presented in class. Each student is required to write and present an essay in Japanese.

Japanese for Business II(CMU; Fall). Intermediate Japanese course designed specifically for those JSTMP participants who performed summer internships through JSTMP or other programs. The course emphasizes business conduct and the vocabulary unique to the Japanese business field. Discussion on Japanese and American intercultural problems is also encouraged. Students are given an option to write and present an essay in Japanese in this course.

Japanese communication book collection. A small collection of books about communicating in Japanese is being assembled for the benefit of the participants. These books are not straight forward language texts per se. Rather they concentrate on contextual usage of the language. These books should serve as tools in helping students gain an understanding of the cultural foundations of communication in Japan.

Courses already in existence available to JSTMP participants:

First Year Japanese (Pitt; Academic Year) A slower paced, 5-credit Japanese language course is available to participants who cannot devote five hours a day to in-class language study. Students in the regular course accomplish in two semesters what they would otherwise accomplish in one semester of the intensive track. Students spend five hours per week in drill sessions with trained native language instructors and two hours per week in lecture classes where the language is explained in English.

Second Year Japanese (Pitt; Academic Year) Same pace as First Year Japanese. It accomplishes in two semesters what Second Year Intensive Japanese covers in one.

Advanced Japanese (Pitt; Academic Year) Third year Japanese language course that, like Technical Japanese, aims to develop broad competency in reading as well as speaking and comprehension. It uses materials covering a wide range of academic and cultural interests, as well as discussions of those materials. Reading materials introduce most of the 881 kyoiku kanji by the end of the second term. Advanced Japanese courses meet 5 hours a week.

Fourth Year Japanese (Pitt; Academic Year) Students who have completed three years of Japanese may elect to take the fourth year Readings in Newspapers and Periodicals, or arrange specialized reading courses with individual faculty members. There is also, in addition, a special advanced level Readings in Social Sciences, and an introductory reading course in Classical Japanese.

Night classes (Pitt; Academic Year). Night classes in elementary Japanese are also available for students who are unable to attend day classes. This includes *Basic Japanese Language 1 and 2,*. This course develops all four language skills --speaking, understanding, reading and writing. Most of the class time is devoted to structured practice with trained native speakers who are experienced instructors.

Elementary Japanese for MBA (1 and 2; Pitt; Academic Year). These courses are specially designed to provide instruction in Japanese language to MBA students. In E.J. 1 the student learns the phonology, basic vocabulary and essential sentence patterns in order to carry on basic Japanese conversation to meet everyday situations. In E.J. 2 the student continues to develop the skills of speaking, reading, and writing. Special emphasis is on content useful in everyday communication.

Elementary Japanese I, II (CMU; Academic Year) A two-semester course sequence for beginning students. This course emphasizes the development of oral-aural skills and introduces basic reading and writing Japanese and the sociolinguistic setting needed for students to enhance their language acquisition. Class attendance is mandatory and all conversation in the recitation sessions is conducted in Japanese.

Intermediate Japanese I, II (CMU; Academic Year) A two-semester course sequence for intermediate-level students. A continuation of Elementary Japanese I & II, this course introduces more complex grammatical structures and different speech levels. Study of the Japanese syllabaries continues with further integration of kanji characters. Class attendance is mandatory and all conversation in the recitation sessions is conducted in Japanese.

Advanced Japanese Conversation and Composition (CMU; Academic Year) This course is designed to help advanced students master the Japanese spoken language

and further develop their reading and writing skills. Study of appropriate speech levels required in different situations (formal vs. informal; polite vs. plain; male vs. female speech). Selection of reading materials covering most of the Kanji characters in the kyoiku kanji (881).

4th Year Japanese I, II (CMU; Academic Year) This course is intended for students who wish to focus on developing the reading and writing skills needed to understand the Japanese formal language used in speeches, letters, and the news media. The course will further kanji character acquisition beyond the kyoiku kanji level.

Special Topics: Japanese (CMU; offered intermittently) This course is designed for students of Japanese who wish to go beyond the regular offerings in Japanese. The emphasis is on the development of advanced reading and writing skills. Course materials include Japanese newspapers, literary texts and some technical documents.

Summer Language Programs (accredited colleges/universities) JSTMP participants at CMU are given an option to study Japanese language at other colleges/universities during summer. This option includes summer language programs offered in Japan by the schools affiliated with American colleges and universities.

JSTMP-Related Language Course Enrollments: 1992-1999

University of Pittsburgh

Course Name	93-1	93-2	93-3	94-1	94-2	94-3	95-1	95-2	95-3
Basic Japanese - 1st Yr JPNSE 1011/1012	19	12	-	15	6	-	15	7	-
Basic Japanese - 2nd Yr JPNSE 1013/1014	14	9	-	6	1	-	-	-	-
Elem. Japanese - lst Yr JPNSE 0001/0002	59	44	11	54	43	9	55	34	17
Elem. Japanese - 2nd Yr JPNSE 0003/0004	37	29	10	22	16	6	24	20	-
Elem. Japanese - 3rd Yr JPNSE 1020/1021	15	12	-	19	12	-	13	8	-
Newspapers & Periodicals JPNSE 1050/1051	19	8	-	12	1	-	8	4	-
Intensive Japanese - 1st Yr JPNSE 1061	-	3	7	-	7	6	-	4	20
Intensive Japanese - 2nd Yr JPNSE 1062	-	-	8	-	-	11	-	-	4
Intensive Japanese - 3rd Yr JPNSE 1063/1064	-	-	-	8	3	-	9	-	-
MBA Japanese JPNSE 0031/0032	-	4	-	-	3	-	3	1	-
TOTAL:	163	121	36	136	92	32	127	78	41

JSTMP-Related Language Course Enrollments: 1992-1999 (p.2)

University of Pittsburgh

Course Name	96-1	96-2	96-3	97-1	97-2	97-3	98-1	98-2	98-3
Basic Japanese - 1st Yr JPNSE 1011/1012	17	11	-	9	-	-	-	14	-
Basic Japanese - 2nd Yr JPNSE 1013/1014	-	-	-	-	-	-	-	-	-
Elem. Japanese - lst Yr JPNSE 0001/0002	41	25	1	53	34	-	49	33	-
Elem. Japanese - 2nd Yr JPNSE 0003/0004	30	21	-	18	16	-	19	11	-
Elem. Japanese - 3rd Yr JPNSE 1020/1021	10	10	-	13	10	-	13	6	-
Newspapers & Periodicals JPNSE 1050/1051	8	4	-	12	-	-	8	8	-
Intensive Japanese - 1st Yr JPNSE 1061	-	-	14	-	-	16	-	-	10
Intensive Japanese - 2nd Yr JPNSE 1062	5	-	-	5	-	6	4	-	-
Intensive Japanese - 3rd Yr JPNSE 1063/1064	4	5	-	-	4	-	-	4	-
MBA Japanese JPNSE 0031/0032	8	6	-	7	5	-	7	4	-
TOTAL:	123	82	15	117	69	22	100	80	10

JSTMP-Related Language Course Enrollments: 1992-1999 (p.3)

University of Pittsburgh

Course Name	99-1	99-2	99-3	TOTAL
Basic Japanese - 1st Yr JPNSE 1011/1012	5			(130)
Basic Japanese - 2nd Yr JPNSE 1013/1014	-			(30)
Elem. Japanese - 1st Yr JPNSE 0001/0002	57			(619)
Elem. Japanese - 2nd Yr JPNSE 0003/0004	20			(299)
Elem. Japanese - 3rd Yr JPNSE 1020/1021	4			(145)
Newspapers & Periodicals JPNSE 1050/1051	5			(97)
Intensive Japanese - 1st Yr JPNSE 1061	-			(87)
Intensive Japanese - 2nd Yr JPNSE 1062	-			(43)
Intensive Japanese - 3rd Yr JPNSE 1063/1064	-			(37)
MBA Japanese JPNSE 0031/0032	3			(51)
TOTAL:	94			(1,538)

JSTMP-Related Culture Courses Enrollments: 1992-1999

University of Pittsburgh

Course Name	93-1	93-2	94-1	94-2	95-1	95-2	96-1	96-2
Japanese Culture ANTH 1783	21	33	51	30	54	39	23	54
Japanese Society ANTH 1784	157	152	191	-	-	122	155	-
Japanese Economic Growth ECON 1640	-	42	-	43	-	24	-	49
History of Japan HIST 1006	-	18	-	-	-	-	-	-
Traditional Japan HIST 1431	-	-	41	-	-	40	-	41
Modern Japan HIST 1433	-	42	-	51	-	-	42	-
Econ. History of Japan HIST 1447					-	-	-	-
Readings on Modern Japan HIST 2433	10	-	-	-	-	6	-	-
Jpnse Literature in West JPNSE 1051					-	-	-	-
Jpnse Films as Literature JPNSE 1057	-	-	50		52	-	-	-
Westerns & Samurai Films JPNSE 1058	-	50	-	49	-	-	-	-
Jpnse Literature On-Screen JPNSE 1059	-	-	-	31	-	34	-	30
World of Japan JPNSE 1071	-	-	-	-	-	18	-	-
Writers & Thinkers: Japan JPNSE 1072	-	-	-	-	11	-	-	-

Course Name	93-1	93-2	94-1	94-2	95-1	95-2	96-1	96-2
Ghosts, Masks, Actors JPNSE 1080	-	47	-	-	-	-	-	-
Forms of Jpnse Theater JPNSE 1081	-	-	-	15	-	16	-	-
Intro Japanese Literature JPNSE 1083	35	-	27	-	30	-	20	-
Gov't & Politics of Japan POLYS 1333	43	-	33	-	19	-	37	-
Political Economy of Japan POLYS 1335	-	37	-	-	-	20	-	29
State, Society, Policy-Japan POLYS 2333	-	-	8	-	-	-	3	-
Science in Society SOC 0312	61	-	91	-	68	-	-	57
Social Structure - Japan SOC 0354	13	-	26	-	30	-	-	-
Mass Society in Japan SOC 1342	-	15	-	40	-	40	-	-
Japan and the USA SOC 1354	-	-	-	17	-	-	24	-
Science, Technology in US, Japan, Europe SOC 1447	-	-	-	-	-	-	-	-
Collective Memory-Japan SOC 2316	-	-	-	-	-	-	-	-
TOTAL:	340	436	518	276	264	359	312	260

JSTMP-Related Culture Courses Enrollments: 1992-1999 (p.2)

University of Pittsburgh

Course Name	97-1	97-2	98-1	98-2	99-1	99-2	TOTAL
Japanese Culture ANTH 1783	62	-	-	29	-		(396)
Japanese Society ANTH 1784	138	114	146	-	158		(1333)
Japanese Economic Growth ECON 1640	-	36	-	32	-		(226)
History of Japan HIST 1006	-	-	-	-	-		(18)
Traditional Japan HIST 1431	-	37	-	34	35		(228)
Modern Japan HIST 1433	44	-	35	-	39		(253)
Econ. History of Japan HIST 1447	-	-	-	13	-		(13)
Readings on Modern Japan HIST 2433	-	-	-	-	-		(16)
Jpnse Literature in West JPNSE 1051	-	-	-	-	13		(13)
Jpnse Films as Literature JPNSE 1057	54	-	-	-	53		(209)
Westerns & Samurai Films JPNSE 1058	-	-	-	58	-		(157)
Jpnse Literature On-Screen JPNSE 1059	-	31	-	-	-		(126)
World of Japan JPNSE 1071	-	-	-	17	-		(35)
Writers & Thinkers: Japan JPNSE 1072	-	-	-	-	-		(11)

Course Name	97-1	97-2	98-1	98-2	99-1	99-2	TOTAL
Ghosts, Masks, Actors JPNSE 1080	-	-	-	-	-		(47)
Forms of Jpnse Theater JPNSE 1081	-	10	10	-	-		(51)
Intro Japanese Literature JPNSE 1083	28	-	20	-	16		(176)
Gov't & Politics of Japan POLYS 1333	9	-	7	-	-		(148)
Political Economy of Japan POLYS 1335	-	-	-	-	-		(86)
State, Society, Policy-Japan POLYS 2333	-	-	-	-	-		(11)
Science in Society SOC 0312	-	-	-	-	-		(277)
Social Structure - Japan SOC 0354	-	-	-	-	-		(69)
Mass Society in Japan SOC 1342	-	-	27	-	-		(122)
Japan and the USA SOC 1354	-	-	-	-	28		(69)
Science, Technology in US, Japan, Europe SOC 1447	-	-	-	11	-		(11)
Collective Memory-Japan SOC 2316	-	-	5	-	-		(13)
TOTAL:	335	228	250	194	342		(4114)

Appendix 2:
Tom Keogh's Report

STUDY OF THE EFFECTS OF TRAINING ON JAPANESE-AMERICAN BUSINESS AND TECHNICAL INTERCHANGES

for the

Japanese Science and Technology Management Program

University of Pittsburgh
School of Asian Studies

by

Thomas J. Keogh

STUDY OF THE EFFECTS OF TRAINING ON JAPANESE-AMERICAN BUSINESS AND TECHNICAL INTERCHANGES

OVERVIEW

This paper deals with the training of American engineers and scientists for technical interchange with Japanese engineers and scientists. The analysis presented here is primarily from an industrial, rather than a governmental or research point of view, although the conclusions may well apply to all.

The emergence of Japan as an industrial power since World War II, and the continually rising level of Japanese technology, has changed the nature of the flow of technical information between American and Japanese organizations. Earlier, when the exchange consisted of a one way communication of technology *to* Japan, there was little difficulty from the American point of view. If problems of communication, translation, or documentation arose, all the accommodation was made on the Japanese side. By the 1980's it was abundantly clear that Japan led in several important areas of technology and that American access to that technology was limited by the historically accepted America-as-teacher-Japan-as-student communication process.

An effort has been mounted to train American engineers and scientists to accommodate the new conditions of a technical flow of information and technology *from* Japan to America. This paper will examine some results of that effort and analyze how training might be improved in an industrial context. A dozen engineers currently involved in technical interchange and negotiation with Japanese industry were interviewed. The analysis also draws on the experience of a group of twenty nine engineers who were trained at the University of Pittsburgh and spent a year working in Japanese factories during the period from 1981 through 1990. Finally, the paper incorporates the author's experience of living in Japan for eight years and participating in many negotiations with Japanese business from 1967 to 1992.

The interviews were conducted in 1995 and early 1996 to determine the effectiveness of training in dealing with American-Japanese interfaces in negotiation and technical exchanges. The subjects were Westinghouse Electric Corporation engineers in the Orlando Power Generation Business Unit and the Energy Systems Business Unit; all have been dealing with the Mitsubishi group of companies for a significant period of time. Half the group had some cultural and/or language training.

SUMMARY AND CONCLUSIONS

General

Training required for dealing successfully with Japanese business is determined by the nature and extent of the interaction anticipated.

The approach to training and the techniques involved differ greatly depending on whether the assignment is long or short term, for technical exchange or business transactions, and according to the aptitudes of the trainee. The main areas of analysis and discussion are as follows:

Language

True fluency in Japanese is most needed for a long term technical and scientific exchange assignments in Japan. The barriers to a flow of technical information from Japan to America have cultural as well as linguistic roots. Training is needed to overcome those barriers and facilitate the flow of information.

It is a given that most Japanese in business speak English, but with varying degrees of fluency. To conduct normal business and technical exchanges, a carefully designed program of language study is recommended that will prepare the trainee to deal with English speaking Japanese efficiently and effectively. The program would include training in the Japanese language for basic courtesies and everyday needs, but instead of aiming for fluency, it would concentrate on teaching the speech patterns and usage of Japanese businessmen speaking English. Improved comprehension will expedite business transactions between the two cultures.

Cultural Training

A good understanding of the Japanese culture is needed for successful interaction in business and technical interchange. Training must deal with stereotypes, myths, misunderstandings, and ignorance about Japan to properly prepare candidates for the task. The role of personal relationships, the culture of the business organization, the use of ceremony, the true meaning of face saving and the belief that the Japanese understand us so well that we don't need to understand them must be explored, explained, and put into perspective.

Business and Negotiation Training

The single most baffling aspect of Japanese business behavior is the decision making process. To deal with the Japanese in business one should be trained in understanding that process, how the organization works, how to work through an interpreter, how to reach an agreement, knowing when an agreement has been reached, when to use informal channels, understanding the pace of negotiations, and how to deal with the indirect methods of business communication used in Japan.

Selling Training to Industry

The attitudes of American management towards training are driven by time, budgetary constraints, and the need to show a return on the investment in training. Tailoring training content and techniques to demonstrate efficiency and effectiveness in communication and negotiation will make training more attractive. The use of video, role playing, and interactive software is accepted in industry. Designing programs to present cultural and language training in a business context can overcome the objections of managers who would not otherwise value their study.

THE REPORT

LANGUAGE STUDY

As a nation we are not particularly well trained in foreign languages, and those educated in technical fields are seldom interested in the study of languages, including English. When discussing language training with American management the focus has to be on the utility of language to further business, rather than language for its cultural or literary significance. Although one can argue that fluency in a foreign language trails cross-cultural awareness and good common sense as a criterion for selecting and training people for international work, language skills are important and need to be put in perspective.

Attitudes on Language Training

The attitudes of American managers on language training ranges from the view that language facility is the prime consideration for international business to a belief that language is not important at all. When the language in question is Japanese, these two extremes meet in agreement that it is useless to pursue such a difficult language. In a limited sense, they are right. Americans have the advantage that the Japanese business world considers English the *lingua franca* of international commerce. Some Americans, recognizing their lack of fluency in Japanese (or any other language) actually feel guilty about that advantage, not realizing that the Japanese do not study English as an accommodation to U.S. business. One only has to witness a Japanese businessman and, say, a Brazilian, discussing business in English to understand that the study of English is a utilitarian business practice done for solid, practical reasons. As he accepts the fact that America is blessed with rivers, fertile land, and a temperate climate, an American should be grateful for having the English language as a practical business tool and use it as such. This does *not* mean that a study of Japanese is not useful. There are excellent business reasons for developing language skills according to the requirements of the situation.

How Much Japanese Study Is Enough?

Deciding how much Japanese language training to pursue depends on several factors. Available time and money are dominant elements in industrial decision making, and will always shape a manager's approach to training. Given sufficient time and money, the extent and nature of the contact with the Japanese should determine the length and intensity of the program. The language aptitude of the trainee must be considered, because people vary widely in their ability and motivation to learn another language. An important component of aptitude for Japanese language study is the candidate's knowledge of *English*; it is more difficult to learn another language if competence in the mother tongue is lacking.

When a need for language training is established and the candidate has the requisite skills, motivation, time, and budget, then the goals and objectives of the training can be set forth clearly according to the length and nature of the interaction. It is useful to look at four major categories:

- Long Term Assignment in Japan - Technical Exchange - Requires the highest degree of fluency. A full commitment to study spoken and written Japanese as well as the culture must be made.
- Long Term Assignment in Japan - Business Transactions - Requires a full time commitment of business training for the candidate and a program of language strategy (defined below) and cultural training for the entire family.
- Long Term Project or Negotiation (U.S. based) - Business and cultural training and a language strategy program to suit a day to day written and oral contact conducted mostly in English.
- Infrequent Contact - For managers and executives supervising those involved in daily interactions. Basic cultural, business, and appropriate language strategy training.

Fluency For The Long Term - A Technical Exchange Assignment in Japan

It is important to differentiate between an industrial assignment and that of researchers and scientists undertaking a long term assignment in Japan for technology transfer. In industry the stress is on the utility of the effort and the payoff in terms of results in the shortest possible time with the lowest investment. While scientists and academics are also concerned about the cost of training and travel, it appears to be easier to sell research organizations and the scientific community on the notion that language training is useful in the wider sense of communication and cultural awareness. Given basic technical competence, it is the mastery of communication and an appreciation of cultural nuances that lead to success in technical interchanges.

We can analyze training for a long term industrial technical exchange assignment in Japan by studying the work done by the University of Pittsburgh for the Westinghouse-Mitsubishi Exchange Engineer Program. This program demonstrated that it is possible to train motivated students to a degree of fluency sufficient for them to begin to function in a Japanese technical environment in thirteen weeks of concentrated study. The engineers left their work assignments and became special, full time students on the Pitt campus. They then lived and worked for a year at Mitsubishi manufacturing locations and were expected to perform their engineering assignments as much as possible in Japanese. All continued to study the language while in Japan. At the end of their assignment each delivered a oral report, in Japanese, to management at the Tokyo headquarters. These final reports were not all models of fluency, but everyone managed, with some help, to comply with the requirement. Of the twenty nine engineers, about half were fluent enough to have a basic conversation in the workplace, follow in general what was said at workplace meetings, and deal with the project at hand. Seven or eight of this number were able to handle questions in Japanese during the final report, but only a few were considered fluent in the true sense of the word.

From this sample, a fair cross section of engineering personnel, the conclusion is that reaching true fluency in Japanese in an industrial assignment in a year's time is beyond the reach of all but the most dedicated and exceptional students.

We are able to track a few from the group who made use of the training. Of the twenty seven males in the program, four married Japanese women. Two of these couples are now living in Japan. In one case the individual is on assignment for Westinghouse and is fluent and effective in the language. The other individual is harder to track: he left his position at Westinghouse and went to work for his father-in-law on the west coast of Japan. We have no further word from him, but one hopes for fluency in such a case.

A third case tells us more about what further training in language will do to improve technical transfer. This individual, a Ph.D. in engineering, had a six month assignment in Japan before joining Westinghouse. His progress in the language course at Pitt was accelerated, and the increased fluency allowed him greater participation and insight into the actual manufacturing process than any of the others. In fact, he absorbed so much that he wrote a book about Japanese manufacturing techniques after his assignment.

Unfortunately, most of the group had no continuing contact with Japanese business that would foster work towards further competence in the language while with Westinghouse. Most have said (and the author agrees, having worked at it for eight years) that maintaining any degree of fluency in the language while living in the United States requires an extraordinary dedication. About half the program participants have left Westinghouse in search of positions that would use their experience.

Language Strategy for the Long Term - A Business Assignment In Japan

In the case of expatriates engaged in day to day business, fluency is desirable, but not absolutely necessary. A language training strategy for the entire family is needed, one that will provide a comfort level for daily living. In the business community this is known as "survival" or "taxi cab" Japanese, but it should not be taken as a trivial exercise. The expatriate has the opportunity to study while on assignment, and many achieve a fair degree of proficiency in the language. The language study strategy, described in the "middle ground" section that follows, is one that allows the expatriate to be the buffer, the go-between. It is the expatriate's job to explore opportunities, prevent misunderstandings, explain language usage and customs, counsel strategy and tactics and know when communication has truly occurred.

It is well understood that, short of taking a year or two to devote entirely to the language, it is not feasible to become fluent enough to conduct a business transaction in Japanese. But even if the expatriate or one member of a project or negotiation team were that fluent, it is not necessarily advantageous in a business sense. It is a poor business strategy to have an American act as translator for his colleagues. The trained American can act as a cultural interpreter and facilitator for a discussion that is either translated or carried on in English.

Does all this mean that the study of the language is useless? The answer is most emphatically no. Knowing the basics of Japanese is important for anyone who will have sustained dealings with Japanese business. At the basic level the effort to learn the language is almost universally appreciated and contributes to building the personal relationships that are so important to the conduct of business. At a more advanced level it helps one understand the structure of the language and gives insight into the culture and values of the business associate.

The Great Middle Ground

There is a middle ground of linguistic competence between fluency and a few basic words of courtesy and greeting. This is the ground that should be occupied by those who need to communicate efficiently with Japanese speakers of English over an extended period of time. It is where an understanding of language patterns and cultural behavior meet. Although English is taught in Japanese primary schools and is required for entrance into college, it is primarily a written, not spoken, language for many. Most Japanese speak English while thinking in Japanese, requiring the listener to have some understanding of the language structure and cultural basis of the thought for good comprehension. Understanding that special English is a valuable skill that allows an American engineer or negotiator to process information content and intent much more rapidly and accurately.

The skill involved is what one interviewee described as "mapping" from Japanese into English. Mapping in this sense is the recognition of the patterns of speech from one language into the other that transcends simple word for word translation. The classic example, the one that leads to much misunderstanding for beginners, is the translation of the Japanese "Hai" into the English "Yes."

People who deal regularly with the Japanese in business know that "hai" can but does not necessarily mean "yes." Besides indicating assent, "hai" can mean many things, including "I hear you," or "I understand what you are saying," or "I don't understand what you are saying yet, but keep talking and I might," or "I heard you, and I don't agree, but I don't want to embarrass you by saying 'no' right now." When a Japanese business man has said "yes" in English, the question is, he has translated from "hai" or is he in fact using the English "yes?" Knowing to consider that question is an important first step in the communication process.

Spoken Japanese is often described as being high-context-low-content, whereas English is high-content-low-context. It means simply that in a given situation the Japanese tend to use fewer words and depend on the listener's ability to understand what is meant from the context. In English, more words (content) are used to deliver the message so that the context is clear, and knowing the background is less important.

Confusion arises when the Japanese speaker applies the Japanese approach to English. As an example, in the early days of nuclear power in Japan we would speak of the economic advantages of scale in going from a smaller to a larger plant. The cost per unit of output would decrease according to a known scale factor. The Japanese negotiators condensed the concept into the phrase "scale merit," and would ask questions like "What is the 'scale merit' of your proposal?" There is no equivalent phrase in American English usage. The meaning had to be explained to new members of the American negotiating team. A less exotic example is that of the secretary asking for "O-A" glasses to be used at the computer. She was astonished that the American manager did not know that "O-A" stood for "Office Automation," a phrase invented by the Japanese to describe anything to do with the application of computers to the workplace. "But it's English!" she said.

The habit of redefining English words in a much narrower sense than a native speaker would, is a sort of reversal of the "hai"-"yes" problem. While the Japanese are confident that the word has communicated the meaning, the westerner is confused by lack of context.

There is also what one interviewee calls "trigger" words. These are words used by non native speakers in an innocent way, but have the effect of triggering an emotional response in the western listener. A polite phrase in the original is sometimes translated as "you *must* do this" or "I *demand* an answer to my question." The untrained listener can spend a fair amount of psychic energy deciding whether to take offense when such harsh words are used. A hostile reaction by English speakers is more common in translations of European languages.

In Japanese the opposite effect may be seen. Translations of phrases meant to communicate a negative response can easily be misunderstood because they appear to be agreement when heard through the filter of politeness. Many negotiations have lingered on because a phrase translated as "I understand your position," with the unspoken, but heartfelt, addition of " ... and I totally disagree with it!" is taken as an encouraging sign by the American. There are times in Japan when one just can't take "yes" for an answer.

Language Strategy

A summary of the major factors favoring adoption of a "language strategy" approach to training industrial candidates in Japanese:

- The English language is ubiquitous in international business.
- English is spoken by the Japanese in a unique way that is often difficult to understand.
- The language skills of American engineers varies greatly, but is often low.
- Time and budget constraints limit training.
- Results are measured as contracts won or projects completed, rather than fluency in a foreign language.

A course combining enough language and cultural study to teach, in a relatively short period of time, *how* and *why* the Japanese say the things they do in English would be very attractive to industry. The primary goal would be to develop the facility to understand Japanese-English efficiently. As an integral part of the process enough Japanese grammar and vocabulary would be taught to reach the "survival" level and perhaps beyond. The foundation would be laid for talented people to go on to further study and for everyone to enjoy an increased comprehension of Japanese-English conversation and culture.

The Study of Kanji

Of the dozens of engineers the author has worked with doing business with Japan, a small but significant minority have expressed a desire to learn kanji. Scientists and engineers show a high level of pattern recognition and they frequently take to the study of kanji very well. Although current computer programs and most drawings are language independent, more and more scientific and engineering information is being generated in Japanese and is not being translated. Being able to read technical Japanese is obviously a great advantage in understanding drawings and specifications, but the study of kanji also opens a window into the culture that is not available to those unwilling to deal with the spoken language. Given the cultural barriers to technical communication dealt with in the Cultural Training section, the value of knowing the written language becomes extremely important for people involved in the transfer of technology from Japan to America.

Like the spoken language, kanji takes a great deal of time to master. The difference is that the study of kanji can be pursued at a more measured pace and the benefits do not depend on a live interaction. This challenge is definitely not for all, but should be considered for the motivated and talented few because the potential value is very high.

Four or five of the Westinghouse-Mitsubishi Exchange Engineers took up the study of kanji with very good success. In the years' time they mastered several hundred kanji and formed an excellent base for further study. All said that the work increased their fluency and general appreciation of the culture.

There is a level of kanji study that is appropriate for the language strategies described in this section. Books are available that teach a few hundred basic kanji by telling the story of their origin in China and evolution from simple pictographs to the somewhat abstract symbols used today. The books are entertaining and useful because they lift the veil of mystery of the many signs in the streets and buildings of Japan. Among other things, it is a great comfort to know the kanji for the men's or ladies' rooms without having to ask.

CULTURAL TRAINING

Cultural knowledge will enhance business results by overcoming the stereotypes, myths, and misconceptions that hamper Japanese-American relations. A knowledge of Japanese culture and Japanese business practices will benefit not only those directly involved in negotiations and technology transfer, but those at top executive levels as well. Better knowledge can lead to more informed decisions on the funding of training, more appropriate response to visits from top Japanese management, and better selection of personnel to handle Japanese business.

Selection

The success of a training program depends greatly on the quality of the trainees. Special attention must be paid to the selection of the most qualified candidates to represent the corporation as expatriates in Japan, in technical exchange programs, and in negotiations. Organizational position and technical competence are the normal starting points in the selection process, but if the candidate has a lack of cross-cultural awareness, is prejudiced, or impatient in communication, no amount of training will help. The screening should allow the possibility of self-selection, that is, consideration of those who declare that they *want* to deal with the Japanese. A wise and thoughtful selection process supported by senior management will pay dividends in productivity and effectiveness.

What Does Culture Have to with Business?

Several interviewees stated that the study of culture, while interesting, was not of great importance. What was needed, they said, was an appreciation of the *business* culture of Japan, that is, knowledge of how the organization worked and how decisions were made. It was clear that these experienced negotiators and technical people thought the business culture and the general culture were quite distinct. This attitude provides an interesting opportunity to teach general Japanese culture, which, in fact, forms the business culture, in a form acceptable to industry. Most points about culture could be made from a study of business taken as a microcosm of society at large. In one course delivered to the Power Generation Business Unit of Westinghouse a book about baseball in Japan called *"You Gotta Have Wa"* was used to introduce Japanese culture. It was a hit. As long as the trainee can relate to the starting point, the training can be effective.

Myths and Misconceptions

A surprising number of Americans hold the notion that cultural training for Japan is totally unnecessary because the Japanese have so mastered our culture they know us as well or better than we know ourselves. When the Japanese "pretend" not to understand something, they say, it is just a ploy to gain time and advantage over the American negotiators.

One observer claims that the last twenty years has produced a sophisticated business climate in Japan that has, in his words, *fostered a myth that Japan is still an Asian country*. He asserts that, in a business sense, the Japanese have become completely western and are capable of the exact same thought process used by the west. In negotiations this gives the Japanese the advantage of being western when they want to and "pretending" to be Japanese and not understanding when it is to their advantage. This now, he concludes, has become a great guessing game of expectations, with the possibility that our expectations (that the Japanese will behave as Japanese) are wrong.

There is an unattractive whiff of paranoia and prejudice about this attitude, but it is not uncommon among those who have dealt with well prepared and competent Japanese negotiating teams. It is true that the Japanese have made great efforts to understand the west and have demonstrated that they can play by anyone's rules. But the notion that they "fake" being Japanese is not a sound basis for determining one's own negotiation strategy.

Happily, the engineer who raised the hypothesis that Japanese business is now completely western has proposed the best response. He says that the best way to be successful with the Japanese is by being honest and showing respect for your opposite number. Keeping one's own integrity is the true message.

Face Saving

Americans need to better understand the meaning of "face" in the Japanese culture. The concept has been trivialized by the belief that "face" is exactly the same for both cultures. It is not. "Face" has been confused with "credibility," "trust," or even "embarrassment" in the western sense. A loss of face in Japan is embedded in cultural concepts of social and personal obligations and a fear of failure that is not part of western culture; it is far more serious than most foreigners appreciate

In a negotiation it would be highly inadvisable to knowingly cause a loss of face for the Japanese. The reaction might not be immediate, but it will be deep and strong. Training should include some discussion of what face truly is and what it means to the Japanese. The concept is much stronger and deeper than we normally believe. A complete training program should include a careful study of this phenomenon..

Failing after one has given his best effort is not a tragedy or a loss of face in American terms, but it can be in Japan. No excuses are accepted. There was a case in Mitsubishi of a man committing suicide *because he was promoted!* He left a note that spoke of his fear of not performing up to the expectations of management in the new position. It was a question of face.

Cultural Explanations for Technical Phenomena

A study of Japanese culture can reap unexpected dividends for the technically oriented trainee, revealing the roots of scientific and engineering techniques and developments.

For example, several engineers in this study noted that the Japanese lack the Not Invented Here (NIH) syndrome so prevalent in the west. The Japanese have been able and willing to take ideas from others and incorporate them into products and processes, often improving them while doing so. In the beginning this opened them to the charge of being "copycats" and earned them little respect. It is now obvious that technology is not only absorbed in Japan from outside sources. It is transformed and, in time, becomes new technology based on the old.

A student of Japanese history and culture does not find this at all surprising. The Meiji restoration was based on the idea of going out to absorb the best ideas from the world and then to adapt them to the Japanese reality. A modern example of this is the Japanese emphasis on quality, borrowed from the teachings of an American, Dr. Demming. American industry has since gone to school in Japan to learn how to manufacture a reliable automobile.

A very instructive example of how the Japanese absorb and transform technology is the case of the now ubiquitous VCR, which many people think was invented in Japan. The technology for VCR's was developed in the United States and applied to television studios to replace the old kinescopes, a film based technology that caused so much eye strain in the early days of black and white television. The Americans thought of making VCR's for the home, but decided that the technology was too complex and too expensive to do so.

The Japanese electronic industry took the concept and found a way to simplify the technology so that it could be mass produced in a form that was useful and affordable. Success depended on their ability to retain an acceptable level of the recording function and quality while keeping the price in the consumer range. Then the Japanese manufacturing genius took over and delivered the goods. The number of homes in America with VCR's is now over eighty percent, according to a study recently published in the New York Times. If someone could only write an instruction manual in plain English ...

Personal Relationships

The personal relationships that form the basis of doing business in Japan have a different character than those known in the west. In America a business relationship is entered into quickly, somewhat casually, and usually does not grow into anything more than a business acquaintance. That is not the case in Japan, where a personal relationship can take months or even years to develop. Once established, that relationship is often stronger and more enduring than an American would anticipate.

One Westinghouse engineer told the story of a project in Japan that involved some serious business commitments on both sides. In the course of long negotiations he developed a good personal relationship and a high level of trust with his Japanese lead engineer counterpart. In the end Westinghouse changed its business position and the project was abandoned after the Japanese side had committed to it. The Japanese engineer felt betrayed, taking the matter personally and very badly. What was unusual about the incident was that the Japanese are often able to separate business and personal feelings. The intensity of the feelings involved, however, were not at all unusual. The Japanese are not the stoic, inexpressive people often pictured in the west. They show their emotions and stand by their personal commitments.

More than one expatriate family has told the story of having made Japanese friends during their assignment, expecting that the relationship would involve little more than Christmas card exchanges after their return to the States. The surprise usually came years later when a son or daughter of the Japanese family shows up on the doorstep to stay a week or month or perhaps a few semesters with their "American family."

Having a good Japanese friend can be rewarding, educational, and fun, but the American involved must understand the sense of obligation and permanence that comes with the relationship.

Cultural Barriers to Technology Transfer

In the case of a long term assignment in Japan for the purpose of technology transfer from the Japanese to the American side, the candidate should be prepared to cope with a number of cultural barriers that could complicate the assignment.

For technology transfer to occur, a relationship of teacher-student must exist at some point. In the west this relationship does not pose a particular problem. An individual can be teacher one day and student the next without much philosophical thought or cultural conflict. Given the traditions of Japan, with its rigid educational system of Confucian and Buddhist origins, the teacher-student relationship can pose problems in a Japanese setting. The mind set formed by a Japanese education is not conducive to the transfer of technology in modern terms.

The Japanese teacher is called "Sensei," a title of respect for a special, revered figure in Japan. In the classroom the sensei is never questioned by the students and would never admit not knowing something. Education is based more on the learning of "facts" rather than developing a thought process, and depends largely on rote.

In the master/apprentice system by which one learns an art, a craft, or a trade, the sensei's authority is also absolute. The apprentice proceeds by doing small, repetitious tasks, but receives little actual direction from the master. In this tradition of non directive teaching, the student masters the skill over a long period of time; the bond to the sensei often lasts a lifetime. Expatriate spouses in Japan get a taste of this relationship in the many classes of arts and crafts available. They rapidly accept the authority of the sensei, but usually ask more questions than tradition would allow, resulting in minor, but interesting, cultural skirmishes.

Given the Japanese system of education and the traditional teacher-student relationship, one can begin to appreciate why American engineers and scientists may not find the degree of collegiality in Japan they would expect at their level of achievement. Even when Japanese engineers and scientists *want* to participate in a transfer of technology, the way they have been taught affects the way they teach. Peer relationships are difficult for the Japanese. They are either teachers or students. American are not comfortable with that at a post graduate level.

If the American engineer/scientist is aware of this cultural background it should be possible to cope better with some of the attitudes he or she will find in Japanese technological organizations. This is particularly true at the beginning, when attitudes are at the most formal stage and personal relationships have not yet begun to flower. The process of technical transfer in Japan will never be easy, but the right training and a positive attitude should make it possible.

TRAINING FOR BUSINESS AND NEGOTIATION

True confidence and competence in dealing with Japanese business can only come with hard earned experience, but proper training can give valuable insights and afford a less painful entry into that fascinating and potentially rewarding world. Julian Gesser, in his book "Piloting Through Chaos," cautions against relying on the "win-win" model of negotiation when dealing with the Japanese. He says "... the negotiation -- the navigation process -- is continuing and unending. In Japanese negotiations there is always another river to ford or a new mountain to climb, and one is never out of the game."

It is beyond the scope of this paper to fully outline a course of training for preparing someone to negotiate with the Japanese, but listed here are some topics based on interviews and personal observation that should be included in training, and some thoughts on the major issues that should be discussed.

Organization and Decision Making

The engineers interviewed for this study were nearly unanimous in saying that the most baffling aspect of dealing with the Japanese is the decision making process, with the overall workings of the business organization itself running a close second.

The Japanese business organization, when put to paper, appears to be a straightforward, traditional, hierarchical line and box arrangement. It is not that at all. The organization functions as a matrix, with lines of communication, authority, and responsibility crossing and blending in ways that can easily confuse a westerner. The decision making process, partly by intent, is quite opaque and a source of much frustration for any non Japanese observer.

The cultural basis of Japanese organizational behavior and the decision making process needs to be understood, at least in outline form, by anyone attempting to do business there. The informal lines of communication formed by university ties, the bond of the entry year class into the firm, and the endless consensus building called *nemawashi* that fuels the decision making process need to be explored and appreciated. Understanding these things will not necessarily speed a negotiation along, but it will ease some of the tension that arises from protracted discussions, extended transactions, and otherwise unexplainable actions.

The path of the consensus is usually up from the bottom and then back down through the layers of management and around the organization so that all members have had a chance to comment and agree to the decision. The Japanese organization is fairly flat -- there are not many layers -- but it is very wide. Anyone even remotely concerned with a business decision will have been consulted and will have assented before the decision becomes known to the American negotiator sitting in his hotel waiting for the answer.

Negotiation Tactics - Questions of Ethics and Values

Any business transaction in Japan begins with building relationships with the opposite numbers of the Japanese team. To be productive, a business relationship must develop a level of understanding and trust that will allow an agreement, a deal, or a transfer of technology to happen. Achieving and maintaining that level of trust can be difficult, particularly if the negotiation or transaction is complex and/or large sums of money are involved, because the trust will be sorely tested by the negotiation tactics used by the Japanese. These tactics, discussed briefly below, can cause an American negotiator no end of grief. There are often misunderstandings and feelings of betrayal, followed by charges of duplicity, deception, and worse.

Most American negotiators stop short of presenting and maintaining a negotiating position that is patently not true or representing as fact that which is known to be false. It is not part of the generally accepted value system. But ethics aside, it is thought to be too difficult to reach an agreement if the original position is shown to be intentionally false. The ensuing loss of credibility is just too embarrassing and uncomfortable in the American scheme of things.

The Japanese have a different approach, a different style, and a different value system that determines how a negotiation will proceed. The opening position of a negotiation can easily be very far from a final position and statements presented as facts, company policy, and sometimes government policy may not be true at all. What the Japanese do would be called "lying" in the west, but falls under the concept of "tatemai" and "honne" in the Japanese context. Tatemai refers to a public position; the company line or the opening gambit of a negotiation. Honne is from the inside ... the "real" or "true" position. It is understood that one has to go through the formal position before one gets to the final, true position. In the Japanese context this is expected, is not thought of as lying, and no one is embarrassed by having held an unrealistic or even a false beginning position.

In the author's experience, confronting a Japanese negotiator with an obvious lie will not cause embarrassment either. In one such case the Japanese negotiator simply said, "We were not prepared to deal with that question then." End of discussion.

This attitude is hard for Americans to accept. Unless the value system that drives the behavior is understood there can be an emotional response that will lead to a bad result for the American side, or the negotiation can be wrecked altogether.

As Gesser said in the book cited in the introduction to this section, the negotiation process with the Japanese is unending, and one is never out of the game. Proper training is imperative.

Ceremony and Formality in Business

The degree of formality found in most Japanese transactions makes many Americans uncomfortable. The American strategy for building a productive relationship usually starts with getting on a first name basis, talking sports, fishing, hunting, etc. It does not begin with a cup of green tea, a discussion of jet lag, diet (have you ever eaten raw fish?), and a detailed discussion of itineraries, including the all important questions, "Have you been to Nikko?" and "When are you leaving?" If the relationship between the two companies involved is a long one, there could well be a complete review of all events leading to the present. Should the American try to force a discussion of business too soon, he is gently led off into non controversial subjects such as the dinner plans for that evening. It should be noted that the Japanese is just as uncomfortable with the American pressing on to business prematurely as the American is with the ceremony.

Those who are uncomfortable with formality and unfamiliar customs try to discount or dismiss the culturally rooted Japanese need for ceremony. Rather than make the effort to understand and appreciate why these time consuming ceremonies and exchanges of gifts are important, they ignore them, saying "the Japanese know we are just ugly Americans, so it doesn't matter." In fact, the Japanese are familiar with foreign ignorance and they do make allowances, but that should not excuse the lack of effort on the part of Americans. No useful purpose is served by disregarding and belittling the formalities that make the Japanese comfortable; it can only hinder the business relationship.

Understanding is required on both sides, but the country in which the meeting takes place usually wins the battle of traditions. Times are changing, of course; in Tokyo one might now be invited to a business breakfast, something unheard of twenty years ago, and, sadly, the geisha party is a fading memory. Probably a case of one yen being stronger than another.

In spite of all the formality, there does come a time when a negotiation will move forward by a one-on-one meeting over drinks and dinner. Knowing when that is appropriate, and with which member of the team, is a skill worth developing. No magic formula will tell when that moment has arrived, but there are some guidelines: When you are exhausted, jet-lagged, dizzy from listening to translated negotiating positions, numb from sitting all day in an overheated room on chairs that are a little too low, and aching for a hot shower and bed, there will come an invitation from your Japanese opposite number to go for drinks and dinner. Call on your inner resources and Go!. That just might be the time.

Knowing how to exploit the opportunity wisely under those conditions is the highest skill.

Working With and Through Interpreters

In Japanese business the most striking manifestation of formality is the use of an interpreter. The more formal the meeting, and the more senior the participants, the more likely it will be that an interpreter will be used. Training in what to expect will help the novice avoid some common errors and overcome the awkwardness of having everything translated.

Negotiation through an interpreter is a long, tedious process requiring patience, endurance, and a philosophical acceptance of the procedure. Among the skills to be acquired are: respecting silence; avoiding the reinterpretation of interpreters; not anticipating what someone is saying while they are struggling with the English language; avoiding slang, jargon, puns, and jokes; and, finally, coping with feelings of paranoia when discussions in Japanese occur across the table.

Of the skills listed above, the two that appear to be hardest for Americans seem to be enduring periods of silence and refraining from suggesting what a Japanese speaker might mean by paraphrasing, restating, and projecting one's own thought or position. By breaking a creative silence (something much longer than a pregnant pause), one often loses the expression of a Japanese position. By trying to speak for them, one often creates misunderstandings because the Japanese side will avoid openly contradicting an erroneous statement or misinterpretation.

In any transaction, the biggest barrier to communication is the assumption that it has taken place. Given that the spoken word is so easy to misunderstand, it is wise to not trust running translations completely. One should seek out notes, minutes, drawings, and other documentation to reinforce understanding. Going back over the same ground two or three times is not a waste of time; the "real" position sometimes appears on the third try!

Individuals who lack language and cross-cultural skills, and even some experienced negotiators, tend to believe that the Japanese use interpretation and language problems strictly as a negotiation ploy. Stated in the extreme, they suspect that all Japanese understand English well, but refuse to speak it, and pretend not to understand it when it is convenient for the negotiation. And when everyone who sat silent at the negotiating table shows some command of English at the dinner table, all suspicions are confirmed. The American is convinced that games are being played.

In reality, the Japanese side is operating under a set of rules that does not allow everyone at the negotiating table to speak, a discipline many Americans lack. It is not a game.

If the American side is convinced that games are being played, the effect on a negotiation can be disastrous. Frustration and anger leads to mistrust, disbelief when a true misunderstanding arises, and ill-advised attempts to confuse or entrap the Japanese side with slang and difficult English vocabulary. The Japanese may not understand the misleading or jargon-laden English, but their life long experience in the indirect use of language and the unspoken word immediately signals a westerner's attempt to deceive them. Language problems are real. Even if an occasional game is played, it is always best to proceed in the clearest, most straightforward English one can muster.

One frequently suggested remedy for the language problem is to have your own interpreter or to include a fluent Japanese speaker on the American side of the table. Experience has shown that for ordinary business transactions having one's own interpreter is expensive and only marginally better than relying on the Japanese side to interpret. To be successful, the interpreter would have to be highly skilled *and* knowledgeable of the subject matter. That is a rare combination, and should be used only in special circumstances.

Having one member of the American team fluent in Japanese is not a magic solution. The exchange at the table has to proceed at its own pace, and has to be absorbed by all present. There is a danger that the American might lapse into Japanese and leave the rest of the team behind, necessitating an after the fact translation that is usually incomplete. The best use of a fluent observer is to help in the meeting after the meeting when the homework is done. Not doing the homework is a cardinal sin; be assured the Japanese team will do theirs.

Working in Teams

There is a fundamental negotiation technique that should not be ignored when working with the Japanese: Never work alone. In these days of severe budget limitations and a scarcity of qualified personnel there is a great temptation to send one person to deal with a problem in Japan. If the problem is important and the amount of money at stake is significant, that is a serious mistake. Given the difficulties and pitfalls of working with interpreters discussed above, and the inevitability of facing a well manned and well prepared team of Japanese negotiators, it is folly to expect even your best negotiator to do the job alone. Long and bitter experience has shown that a minimum of two sets of ears must listen to the translation. One person has to handle the exchanges, another has to take notes, and possibly a third should be on hand to think. One needs commercial, technical, and possibly financial expertise to complete the picture. This becomes obvious in the after-meeting-meeting when the American team tries to put together the happenings of the day. Skimping on the makeup of the team is truly penny wise and pound foolish.

A point of agreement among experienced people is that Americans are usually under-prepared for most negotiations with the Japanese. It is safe (and prudent) to assume that the Japanese side will have done their homework before the negotiation session starts. All relevant files will have been researched, documents copied and distributed to all interested parties, opening positions and fall back positions discussed and agreed to, the spokesman selected, and the strategy to attain the desired result will be set. Details such as the agenda, meeting place, placement of people at the table, and who will go to dinner will be decided. Occasionally an American team will be that well prepared, usually because they have been burned once or twice in negotiations.

Some say that the *only* training really necessary to deal with the Japanese is training in negotiation techniques and discipline. The thought is attractive, because negotiation training is applicable to any situation and should be pursued. But having participated in negotiations in many Asian and several European countries, it is the author's view that the more extensive preparation for the rigors of the Japanese system of negotiation advocated in this paper is worth the price.

Time

In American business the macho thing is to arrive on the first plane, work through lunch, sign the deal, and be back home for another meeting that night. While they might appreciate the efficiency, the Japanese think such behavior is uncivilized, impolite, and rather stupid. The length of time it takes to negotiate a deal in Japan is usually proportionate to the importance of the subject. Formalities must be observed, positions must be presented and considered, the internal consensus building *(nemawashi)* must take place, and, after agreement, some celebration of the event should occur, preferably over dinner and drinks. If continuing relations are important, it would be wise to relax and enjoy the ceremony. Taking the extra time will pay dividends.

Notes from the Book of a Grizzled Veteran

One interviewee captured so much of the essence of Japanese interaction in a rough and ready way that it seemed appropriate to include his thoughts as a coda to this section.

His observations:

- The Japanese set goals that are very general. Progress in a technical field appears to by "whim" because the pattern is hard to follow.
- Information flows are very slow. Not reticent, but slow.
- Do not confront the Japanese on an issue, they cannot react to that.
- Pre-warn as much as possible of the need for a decision or reaction. Send written material *weeks* ahead, if possible.
- The nodding agreement is not an agreement. When does yes actually mean yes? Only experience can tell.
- The Japanese cannot admit failure. When a product development mistake is made in Japan, they do not and cannot tell the customer. (In his words), "One must declare a victory and then declare a second victory to fix the first!" The problem gets fixed without ever having to admit that there was a problem. This is a manifestation of "face saving" that westerners cannot imagine.
- The sixty hour work week is amazing, until you realize that it is really thirty hours of *work* and thirty hours of just *being there*.
- In a technical endeavor have all the relevant data to look at rather than trust the Japanese analysis of the data. The answers cannot be trusted without knowing the data, because the results can be "pre-decided" to fit a given situation.

- One of the strengths of Japanese technical development is the lack of the NIH (Not Invented Here) syndrome. Engineers are open to new ideas until a new concept is "absorbed." Then there is total commitment to it; no going back.
- Lies have been told to customers (in his presence) because it was felt that was what the customer wanted to hear. No bad news or even difficult news for the customer.
- The pressure of total social commitment outside of work is quite overbearing. Knowing when to demand time on your own is a product of experience. You have to go through it before you can know when to relax the rules of courtesy and protocol.
- There is a real difference in planning horizons between the U.S. (short term) and Japan (long term).
- One of the main driving forces changing Japan business today, both in the social and technical sense, is the fact that the pool of Yen is drying up. Things are done in a much less lavish fashion today than they have been in a long time.

These observations, tossed off during an interview, are the product of thirty years of dealing with the Japanese in a highly technical relationship. The Grizzled Veteran had no particular training and no pretensions at expertise in the culture ... just a lot of experience.

The G.V. comes close to the mark on most of his observations, but, in the author's opinion, stretches on a few points. For example, progress in a Japanese organization is much more the result of planning than "whim." True, general goals are set, but people buy into them and work out specific projects. I have witnessed the Japanese occasionally apologize for mistakes, but he is right that the Japanese do avoid admitting failure and problems. Consider the length of time it took the government to admit that the blood supply was tainted with the AIDS virus. Hundreds of hemophiliacs wish they had acted more swiftly.

One hopes that training could shorten the Grizzled Veteran's thirty year learning process considerably for the new entrants into the game.

SELLING INTERNATIONAL TRAINING TO INDUSTRY

Training for Japanese-American business is not a high priority for American management. The middle and upper management levels who control training budgets and those directly involved in international business need to be convinced that training can increase productivity at an acceptable cost in time and money. Designing relevant, efficient programs is the key.

Making the Training Relevant to Business

American industry looks to the bottom line when establishing budgets, and does so with a very short planning horizon. The budget is for a year, but revisions come every quarter. Unless a company is firmly committed to longer term training goals, the training budget is one of the first to get slashed or eliminated altogether when money becomes tight. The time to sell management on a Japanese-American training business plan is when the budgets are being set. If the company is convinced of the value of the training and the program is launched, the chances of surviving budget reviews increase greatly.

The first step in presenting a program to industry is to analyze the kind of business transactions being carried on with Japan. As we have seen in the Language section of this paper, the length and character of the assignments and transactions will determine the kind of training that will be most useful and efficient.

After demonstrating that training can be tailored to the business plan, the next step is to show that the training does address the question of how to do business in Japan directly. The Training for Business and Negotiation section goes into detail about the training needs of Americans facing the world of Japanese business. Program emphasis would be on how to handle business situations and understanding the behavior of Japanese business. Within that framework the cultural basis of business organizations, the decision making process, values, ethics, codes of conduct, and many related topics can be explained.

The difficult question of language training can be handled by the language strategy approach discussed earlier. Understanding that approach will help most managers get over the emotional block of how one copes with the Japanese language.

One manager interviewed for this paper pointed out that there is usually a complete disconnect between the value of a negotiation or transaction and the budgetary calculations for training people to handle it. It takes a perceptive and far sighted manager to bridge that gap and defend a proper training budget; that kind farsightedness should be encouraged by designing programs geared to the business objectives.

Time [again]

The Irish say that when God made time, He made plenty of it. That is not the view of American business.

Getting management to devote the time to training people properly is even more difficult than convincing them to spend the money. While there is no magic formula to tell how much time is needed for a particular kind of training, the starting point is, as always, the nature of the assignment. The best foundation for building confidence in a training regime would be to concentrate first on the most common need: that of a home based engineer or marketer who travels to Japan and hosts meetings in the States.

The details of where and when training would take place (in the workplace? the university? during work hours? personal time?) have to be sorted out case by case. The important thing is to stick to the plan once made, with the objective being to demonstrate that the trainee is better equipped to do business by virtue of an increased base of relevant knowledge. If that objective is met within a reasonable period of time, then discussions can proceed on tougher challenges, such as preparing someone for a long term technical exchange assignment in Japan. That training program could easily last a year, a thought that would choke most managers.

Techniques

The most effective training programs are done away from the workplace in a classroom setting complete with training aids and plenty of opportunity for trainer-trainee interaction. Besides putting the program close to varied resources, the classroom has the added advantage of getting the trainees full attention. No phones, emergency meetings, and the like.

Duplicating the classroom at the workplace is possible, but the logistics for the trainer become more complicated, the resources are less available, and the distractions for the trainee increase. In spite of the disadvantages, the live interaction is there and good training can be accomplished.

An alternative that is popular in industry is the use of video training. There are a fair number of commercial tapes available that will show the basic customs and courtesies of Japan. They deliver a good deal of information in an attractive package and are very useful for a beginning level.

The inexpensive combination of a video camera, a tripod, and a VCR opens the possibility of video taping the role playing of various business and social situations. Once a suitable script is devised, (no small trick) this type of training can be quite effective. It is portable, repeatable, and no professional camera operator or studio is needed. Preparing for a video taped role play is not easy, and it does concentrate the trainee's mind. The effect on the "star" of the show is dramatic: few things are more arresting than one's own image on the screen. Lessons learned there tend to stick.

Roles for Management

Management can do a great deal to foster good international training by showing interest and participating in the planning and selection stages of training. It is necessary to have good policy statements, but nothing replaces personal attention.

Management should encourage experienced people in the organization to participate in some of the training programs. The cost of time spent away from their normal assignment must be considered, but the value added to training can be considerable, particularly if the individual is articulate and enthusiastic.

If the international business is valuable enough to the company, and the intent is to continue to work in Japan, serious consideration should be given to doing a benchmark study of American companies who "do it right." There are companies who have considerable experience in Japan and have gone through a long, tough learning curve. Motorola, IBM, and Texas Instruments are examples, but there aren't many. The successful ones have the common bond of a dedication to training for the long haul.

Thomas J. Keogh
Pittsburgh, Pennsylvania
April 28, 1996

Appendix 3:
JSTMP Newsletters

JSTMP

Japanese Science and Technology Management Program - University of Pittsburgh/Carnegie Mellon University Spring 1996

IMPROVING MY HANDICAP: AN INTERNSHIP IN JAPAN

Bob Lizewski completed a Masters in Materials Science and Engineering at the University of Pittsburgh in 1993 and a six-month internship with Ishikawajima-Harima in Tokyo, Japan, in 1995.

Bob practices his swing on the roof of IHI during a lunch break

It was with some trepidation that Bob Lizewski set out in March 1995 for a six-month internship in Japan. Despite a year of intensive Japanese language and culture training, and the confidence he had in his engineering skills, Bob still had concerns about going to a country so far away. Everyday things like banking, telephone calls, or finding something to eat, would become a source of anxiety. He also wondered what his work responsibilities, routines and relationships would be like for his internship in Japan.

The internship at Ishikawajima-Harima Heavy Industries (IHI) and his Japanese living experience turned out to be more positive and beneficial than Bob could ever have imagined. The technical work at IHI was challenging and rewarding because Bob was able to continue researching the hot corrosion of TiAl and effective treatments for protection at elevated temperatures, research he had already begun at the University of Pittsburgh. A close relationship between his Pitt advisor and IHI made for a synergy in the research project and provided continuity for Bob in the research he conducted at both Pitt and IHI.

Bob quickly learned how to overcome everyday, routine challenges like finding a good, inexpensive restaurant, making phone calls to the U.S. and in Japan, using e-mail, shopping at a local grocery store and doing banking. As he learned to cope with the frustration of being in a foreign culture and learning "the basics" all over again, he realized that he not only had a newfound confidence in his ability to adapt but had also developed a new set of problem-solving skills.

The most rewarding parts of Bob Lizewski's experiences, however, were the relationships he developed. Bob found supervisors and co-workers ready to help out in any way possible to make his experience in Japan a pleasant and positive one.

See LIZEWSKI, page 7

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The Japanese Science and Technology Management Program (JSTMP) is a multi-level program offered through the University of Pittsburgh's Asian Studies Program and Carnegie Mellon University's Graduate School of Industrial Administration. The program is designed to educate American scientists, engineers and technical managers about Japanese society and culture, as well as to promote cooperative work in the development and exchange of technology between Japan and the U.S. Participants are involved in extensive Japanese language and culture training, in conjunction with opportunities to work at Japanese companies and research facilities.

JAPAN BUSINESS LECTURE SERIES

"Teamwork" is the key concept of the 1996 Japan Business Lecture Series hosted by Carnegie Mellon University. This annual endeavor is designed to assist those who have an interest in or are currently involved with Japanese business counterparts. This lecture series may also be of interest to those who want to stay abreast of current developments in U.S. - Japan relations.

The aim of the series is to provide up-to-date and in-depth information on topics concerning Japanese business and related issues, from experts in their respective fields.

The lecture series is co-sponsored by the Japan External Trade Organization (JETRO), and is supported by various units from Duquesne University, The Greater Pittsburgh Chamber of Commerce, Chatham College, The Japan-America Society of Pennsylvania, and the University of Pittsburgh.

Location:
Mellon Auditorium, Posner Hall, Graduate School of Industrial Administration
Carnegie Mellon University

Registration and Admission are free and available on a first-come, first-serve basis. Seating is limited. For more information, please contact:

Cynthia Hess Coulter
Japan Business Lecture Series
Carnegie Mellon University (GSIA)
Pittsburgh, PA 15213
Tel: 412/268-8692
Fax: 412/268-8163

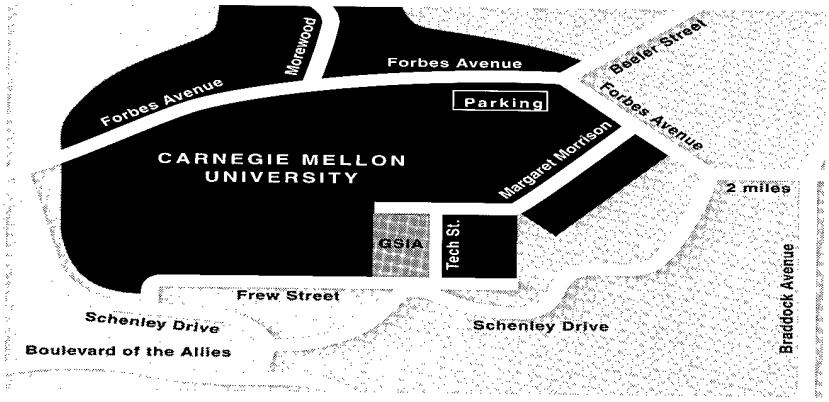
Schedule:

February 17 9:00 a.m. - 12:30 p.m.
9:00 - 9:10 Dr. Paul Christiano, Provost, Carnegie Mellon University
9:10 - 9:20 Opening Address - The Hon.Tom Murphy, Mayor of Pittsburgh
9:20-10:30 Mr. Carl Yankowski, President and COO, Sony Electronics, Inc.
10:30 - 11:30 Mr. Thomas Hutton, General Man ager, Pratt & Whitney

February 28 6:00 p.m. - 8:00 p.m.
6:00 -6:30 Registration
6:30 - 7:30 Mr. Takeshi Okatomi, Chairman and CEO, Toshiba America, Inc.
7:30 - 8:30 Mr. Masayuki Yamamoto, Chairman, America Yazaki Corporation

March 13 6:00 p.m. - 8:00 p.m.
6:00 - 6:30 Registration
6:30 - 7: 00 Mr. Jeff Kennard, Director, Xerox Corporation

April 3 6:00 p.m. - 8:00 p.m.
6:00 - 6:30 Registration
6:30 - 7:30 Mr. Dennis Unkovic, Attorney, *Meyer, Unkovic & Scott*



SECOM

SECOM is a leading Japanese corporation providing security services for factories, banks, retail stores, and homes via a nationwide security network. Located in Tachikawa, Japan, SECOM provides research opportunities in the areas of Network Applications, Artificial Intelligence, Speech Processing, Robotics and Image Processing.

For almost two years, SECOM has been home to JSTMP Intern Todd Williamson. Todd is a Robotics Ph.D. student at Carnegie Mellon University. Through the Japanese Science and Technology Management Program, Todd has been researching a navigation system for an indoor mobile surveillance robot (nicknamed SURV). This robot would be deployed in situations where the area to be patrolled is so large that a closed circuit TV system is impractical, but where the cost of full-time guards is deemed too high.

The goal of the research is to develop a low-cost vision-based navigation system. Previous systems have required magnetic tape to be laid along the path that the robot will follow, making the route difficult to change while at the same time making the system prohibitively expensive. Todd reports that "our navigation system uses computer vision to guide the robot along its path accurately, thus avoiding the need for magnetic tape and providing easy programmability".

Currently, CMU is recruiting on the CMU campus for one year & longer paid intern positions in computer science and robotics. Interested people should contact:

Cynthia Hess Coulter
Carnegie Mellon University
Pittsburgh, PA 15213
Tel: 412/268-8692
Fax: 412/268-816
E-mail: cynthiac@andrew.cmu.edu

MIT Scholar Visits PITT

Dr. Burkhard speaks to a diverse crowd

The Japanese Science and Technology Management Program welcomed guest speaker Dr. Geunther Burkhard, visiting scholar at the Massachusetts Institute of Technology, on November 30, 1995. In his presentation entitled, *International Technology Management -- Cooperation and Competition: The United States, Japan, and Germany*, Dr. Burkhard discussed:

- The differences in funding research in the U.S., Japan, and Germany
- The impact of public policy on research and technology development
- Technology management and the sharing of technology
- Changes in Japan resulting from the "bubble" burst and reunification in Germany
- The future of technology development

A diverse crowd of students and professionals from the Pittsburgh area, including students and faculty from Carnegie Mellon University, visiting scholars from Japan's Ministry of International Trade and Industry, as well as individuals from international law firms and other Pittsburgh-based companies, attended this very useful presentation.

Dr. Burkhard also met individually with faculty and professionals in the Pittsburgh area who are involved with technology management. These included Dean Thomas Murrin and Drs. James Burnham and Robert Gleeson of Duquesne University's A.J. Palumbo School of Business & Administration; and Dr. Sunder Kekre of the Graduate School of Industrial Administration at Carnegie Mellon University. Dr. Burkhard also met informally with JSTMP students to share some of his personal experiences of living in Japan.

A native of Germany, Dr. Burkhard earned a masters degree in Mechanical and Aeronautical Engineering from the Technical University of Munich. He was awarded a "Two-Year Language & Practice in Japan" scholarship by the German government in 1991, and went on to complete a doctoral degree at the Tokyo Institute of Technology. His dissertation was entitled, *A New Approach of Material Processing in Carbon-Copper Systems using an MPD-Arcjet.* Fluent in German, Japanese and English, Dr. Burkhard is currently a visiting scholar at MIT's Center for Technology, Policy & Industrial Development.

Director's Message

Jonathan H. Wolff

In May of 1995, Japan's Ministry of International Trade and Industry (MITI) and the Japan External Trade Organization (JETRO) initiated a program of promotional meetings to introduce the Japanese Industry and Technology Management Training Program (JITMT) to Japanese companies and to expand the number of internship opportunities in Japan for American participants.

Because of these efforts and the continued support of MITI and JETRO, JSTMP has been able to secure places for half of its full-year participants with Japanese companies.

Finally, a word about domestic support of JSTMP. We gratefully acknowledge the cooperation we have received from MITI and JETRO, and we again look forward to meeting with representatives of Japanese industry this summer, when another series of JETRO/MITI-sponsored meetings with Japanese companies is scheduled to take place. While we are thankful for past support we have received from the U.S. government, it is ironic that planning for these new efforts is taking place at a time when the level of continued U.S. government support for the JITMT programs is being questioned.

This summer's meetings are scheduled for Fukuoka, Takamatsu, Hiroshima, Tsukuba and Sendai. We are hopeful that our efforts will result in greater opportunities for our students to secure internships in Japan and to establish better connections with Japan's technical leaders.

INTERN CORNER

#1

"KOKUSAIKA"

by Patrick H. Oduor

Patrick Oduor received his M.S. in Computer Engineering from the University of Alabama. He is completing a one-year internship with Toshiba Corporation in Yokohama, Japan.

A running joke in a political science course I took at the University of Pittsburgh said that Japan's version of internationalization, or *kokusaika*, was having a McDonald's on every corner in Tokyo. While it is true that Western fast food establishments enjoy success in Japan perhaps as much as in the U.S., this is far from the extent of *kokusaika* in Japan. As an intern at the Toshiba Corporation in Kawasaki, I have come to experience another dimension of *kokusaika*.

Before coming to Japan I heard stories from other interns who were the only foreigners in their host companies as well as their housing units, which, in most cases, was the company dormitory. So I was prepared to be immersed into a similar situation, and get the full effect of "Japanization". It turned out to be a little different at Toshiba.

My first night at Toshiba's Daiichi Ryo (dormitory) in Shinkoyasu, Yokohama, I met perhaps 10 or so foreign interns attached to Toshiba. This number fluctuates every so often with the comings and goings of interns on various length internships. I have been told that at the height of the bubble economy, there were as many as 30 interns at a time, which necessitated almost an entire floor of the six story dorm to be designated as the "*gaijin*" floor. At the time of this writing, there were 10 foreign interns in residence.

It is quite a diverse group of people who are all here to experience cultural and corporate Japan. The majority of interns past and present are from Europe, which was a surprise to me since I had thought the bonds between the US and Japan were stronger than between Japan and Europe. Among them I have met interns from Britain, France, Germany, Holland, Sweden, and Switzerland as well as from Brazil, Canada and the US. There are also cross-cultural interns from the US and Europe, myself included, originating from Egypt, India, Kenya and Turkey.

A resplendent Patrick in Yokohama

Asian countries often have more training programs with Japan than the rest of the world because of proximity, and to promote regional cooperation. Among the ranks I have met Thai, Indonesian, Taiwanese, Singaporean, and Malaysian interns at Toshiba as well. Needless to say this is a serious and well-organized *kokusaika* effort on Toshiba's part.

It is also worth noting that there are female interns at Toshiba, although the number is somewhat less than their male counterparts. Toshiba also employees foreigners full-time, some of whom give well-seasoned advice when I join them once a week for Japanese class at the Toshiba Evening School.

Most of the European interns come to satisfy industrial experience requirements before graduating from college. Some of their universities have special arrangements with Toshiba and other Japanese companies to provide training opportunities.

There are other companies who are trying to emulate Toshiba and indeed I have met quite a few foreigners at such companies. Perhaps in light of the recent efforts like those of JETRO and MITI to promote the JITMT programs here, more and more Japanese companies will participate in this kind of *kokusaika*.

Certainly the summer intern workshop in Shin-Yokohama was an example of the progress some companies are making in that direction. (See articles on pages 1 and 3 of JSTMP's Fall 1995 Newsletter.)

See ODUOR, page 6

"SPEAKING JAPANESE"

by Tom Nugent

INTERN CORNER #2

Tom Nugent is completing a one-year internship with Ishikawajima-Harima Heavy Industries (IHI) in Yokohama, Japan. He will pursue graduate work in engineering at MIT.

I was often told, before I went to Japan, that it would actually be difficult to get Japanese people to speak in Japanese with me and not in English. The reason for this, so they claimed, was that in stores and on the public transit trains, buses, etc., many Japanese people would eagerly jump at the chance to practice their English with a native speaker of that language; or conversely, the average Japanese would assume that a *gaijin* (foreigner) couldn't possibly speak their own language. This advance information surprised me at the time, before I left the U.S. But, while I'm happy to say this situation rarely happened to me during my internship experience in Japan, in the beginning I wondered to myself, "Do I display some kind of 'aura' which tells even strangers to speak to me in Japanese? Why did everyone back home lie to me?!"

My internship was with Ishikawajima-Harima Heavy Industries in Yokohama and the staff at work had been told that I spoke Japanese. As a result, most of the conversations I had with my co-workers occurred in Japanese. In spite of a limited vocabulary and garbled grammar on my part that hindered communication a bit, we were still able to have simple exchanges of information. Before long, days would go by and I'd discover that I hadn't spoken any English at all. As a result, my English got worse and worse, from lack of practice. I was in the curious situation of being fluent in two languages: broken Japanese and broken English!

Tom and Bob, enjoying the subway in Tokyo

Dealing with Japanese colleagues at work led to some amusing experiences. I especially remember the time when I was ATTEMPTING to switch from Japanese to English one day during a discussion at lunch. I was trying to describe a peculiar musical instrument, the word for which I did not know in Japanese. I wracked my brain for the English word without success and eventually resorted to gestures that described its size and shape. Suddenly, one of my Japanese coworkers blurted out in English, "Accordion!" Everyone began laughing at the same time. "Yes, that's it!" I exclaimed in Japanese. I had arrived at a point where I needed a non-native speaker of English to remind me of vocabulary in my own native tongue!

My internship supervisor at work was quite *kibishii* (strict) and insisted that I speak as much Japanese as possible. Dr. Oguma reminded me in a way of a wonderful Japanese language teacher I had had at the University of Pittsburgh. Fujii-*sensei* (Professor Fujii) was able to bring out the best in her students while demanding high standards of performance. She let us know when she was pleased with our accomplishments but, at the same time,

Tom outside IHI in Tokyo

See NUGENT, page 6

Patrick hard at work at Toshiba

ODOUR, continued from page 4

I must say that the foreign intern culture has sparked many friendships for me as well as for the Japanese amongst whom we live. There is always a risk of isolating ourselves because it appears to me that some of the Japanese are perhaps intimidated by a sizable group of foreigners and find them less approachable. On the other hand, some foreigners themselves may tend to use this kind of isolation as an escape from mingling with the Japanese around us. Nonetheless, with the right balance, exposure to so many people from so many places has been a complimentary experience. I don't feel totally isolated as if I were the only *gaijin*, but at the same time I allow for the Japanese experience.

Personally, it has been a valuable experience being "Japanized," but also truly "internationalized," having been exposed to such an interesting and diverse group of people. The world is large, but is becoming more localized every day. Life in today's society depends more and more on understanding other cultures. I came to Japan in search of Japanese culture — who would have thought I would find a global culture as well!

NUGENT, continued from page 5

she made positive suggestions about how we could improve. We learned so much under her persistent but exacting instruction. In a similar way, Dr. Oguma provided the means for me to achieve better Japanese language skills by his explicit order to speak only Japanese in the workplace. I will always be grateful to him for this mandated exercise that became for me a language lab that increased my proficiency in Japanese language to a much higher level that I expected. *Domo arigato* (thank you)!

I eventually discovered why the Japanese didn't try to speak English with me, even outside the workplace. My JSTMP language and culture classes had prepared me with certain polite, expected phrases that are used in everyday life. Therefore, when I went into a store, I usually approached the sales clerk from behind and said softly (as a customary), "*Anoh...,*" which means, "Pardon me." The clerk, as is usually the case in Japan, would immediately spin around and respond with an automatic "*Hai?*" (which means, "Yes, can I help you?"). I would quickly follow up with a question in Japanese, never giving that clerk a chamce to get a word in edgewise . . . either in Japanese or English! So my informants in the U.S. hadn't been lying about the difficulty of *gaijin* getting to speak Japanese in Japan, they just didn't know how to adapt the situation to their needs!

The Annual San Francisco Technical Career Forum

The San Francisco Technical Career Forum is an annual job fair for Japanese/English & Korean/English bilingual engineering, computer and science majors.

The 1996 Forum will be held from March 2-3

To register or receive information about next year's forum:
Visit our World Wide Web Site at http://www.dicr.com/dicr
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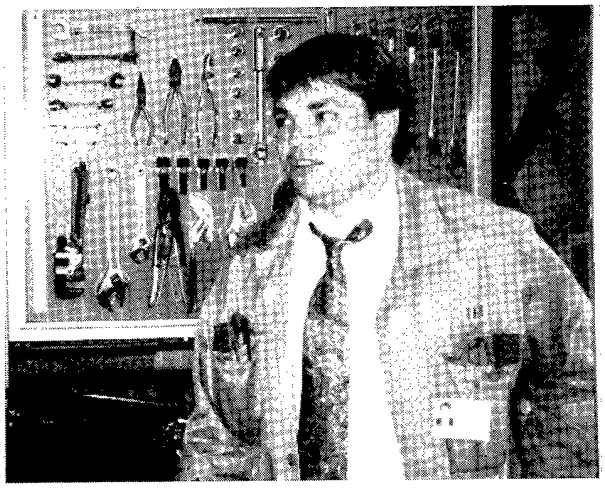
Registration is free and travel scholarships are available



Bob Lizewski in uniform in the IHI lab

LIZEWSKI, continued from page 1

Those that he worked with made sure that his needs were taken care of. For example, they went out of their way to help find a convenient apartment for him to stay in when his wife came to visit Japan for a few months. Bob got to know his co-workers better by socializing after work and grew closer to his supervisor, Dr. Kihara, by visiting with his family for a traditional meal at his Tokyo area home. Bob and his wife even enjoyed the hospitality of his boss's family as they traveled with Mr. Nakagawa to his ancestral home and saw unusual and wonderful sights around Japan. Their travels included visits to Kurashiki, Hiroshima and Mt. Aso in Kyushu. When Bob expressed an interest in Japanese history, co-workers made a point of taking him to important historical sights like Nikko, Kamakura and the great Shinto shrine at Ise.

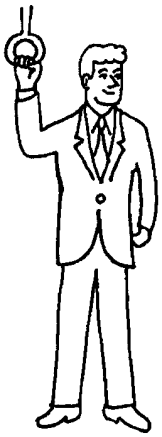
Now that Bob has returned to the University of Pittsburgh to pursue PhD work in Materials Science and Engineering, he is sharing his Japan experience with participants in the JSTMP Program as well as students and faculty in the School of Engineering. During the months of January and February, Bob visited departmental engineering seminars with a package of slides, stories and enthusiasm. Bob shared the story of his first experience ordering in a Japanese restaurant: it was quite a surprise to find the establishment was Korean staffed by Chinese who spoke Mandarin! The slide show featured everything from Japanese terrain and cuisine to super-contemporary shots of Tokyo, to snapshots of Bob's office and co-workers at IHI. In total, he has talked to over 500 undergraduate and graduate engineering students and hopes to encourage them to consider pursuing a similar experience in Japan through the Japanese Science and Technology Management Program.

Inside Japan

"Train Etiquette"

Sample Model Passenger

Try to avoid staring at other passsengers. Close your eyes, take a rest, or look at advertisements.

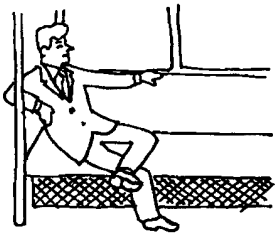


Keep your balance by holding onto a strap.

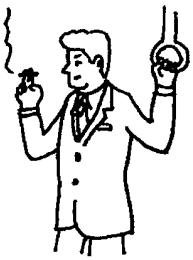
Hold articles neatly under your arm.

Bad Manners

Hitting other passengers with your reading material.

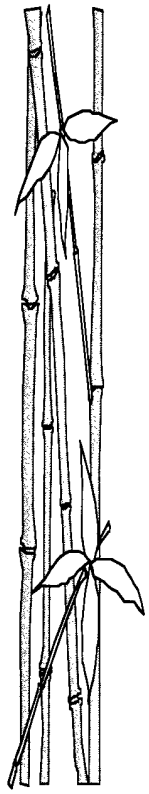


Taking up too much space.



Smoking on the train.

*From JTB's *Illustrated Japan* series, Volume 2*



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JSTMP Newsletter

Japanese Science and Technology Management Program - University of Pittsburgh/Carnegie Mellon University Fall 1996

JSTMP Interns gather after workshop to compare notes and enjoy soba. Interns are (from left to right) Patrick Odour, Gary Knapick, Jeremiah Woods, Molly James, Jim Urso, and Program Director, Jonathan Wolff.

3rd Annual JITMT Intern Workshop

Over 160 interns from all twelve Japanese Industry and Technology Management Training centers gathered in Yokohama for the Third Annual JITMT Intern Workshop.

Current interns from Hokkaido to Kyushu met at the Shin Yokohama Prince Hotel for a one-day workshop designed to help them maximize their internship experience in Japan.

Keynote speaker, Robert Orr, Jr., Director of Government Relations-Japan, Motorola, presented a talk entitled, "The 'Kabuki' of US-Japan Trade Relations." In the talk, Orr discussed different perspectives of the US-Japan negotiation process, as well as some of its goals and results.

Popular at previous workshops, a panel of "veteran" interns was formed to discuss their own intern experiences from a variety of perspectives.

Tim Chang, from the University of Michigan, related interesting and funny anecdotes as an intern at Toyota Motor Corporation that provided valuable lessons he finds useful in his current position as a chassis engineer for General Motors-Japan.

Jeff Funk, Associate Professor at

See Workshop, page 7

The Japanese Science and Technology Management Program (JSTMP) is a multi-level program offered through the University of Pittsburgh's Asian Studies Program and Carnegie Mellon University's Graduate School of Industrial Administration. The program is designed to educate American scientists, engineers and technical managers about Japanese society and culture, as well as to promote cooperative work in the development and exchange of technology between Japan and the U.S. Participants are involved in extensive Japanese language and culture training, in conjunction with opportunities to work at Japanese companies and research facilities.

Director's Message

This has been a very active season for the JSTMP Program at the University of Pittsburgh. Taking up intern positions in Japan have been Jeremiah Woods (Sanyo), Joe Cupani (Chiyoda) and Jim Urso (Nippon Automation).

Matt Dixon spent one month in Japan conducting research on the Boeing-Japan 777 partnership while Molly James and Gary Knapick spent the summer improving their language skills in Hokkaido. Greg Gillette put his language and culture skills to the test during a two-week stay in Japan's Ishikawa-ken.

Also headed for Japan shortly are Jim Rankin, who will be working at

See Director, page 2

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On the Road Again With JETRO and MITI

JSTMP Director Jonathan Wolff speaking on behalf of the JITMT Program in Sendai, Japan

In early June of this year, Japan's Ministry of International Trade and Industry (MITI) and the Japan External Trade Organization (JETRO) sponsored a series of five meetings to introduce the JITMT Program to businesses throughout Japan.

This was part of a continuing effort to increase the number and scope of internship opportunities available to JITMT participants. Between June 4 and June 13, representatives of the various JITMT centers attended programs in Hiroshima, Fukuoka, Takamatsu, Tsukuba and Sendai.

Each program included presentations on the JITMT internship program by representatives of MITI, JETRO and a designated JITMT representative. Following the formal presentations were receptions that allowed conversation between the JITMT people and many of the businessmen and representatives from regional business organizations who attended.

Representatives from MITI discussed the importance of the internship program. Mr. Eiichi Nagata spoke on behalf of JETRO and described the merits of having a JITMT intern and the process by which companies could be matched with an appropriate intern.

The designated JITMT spokesperson then outlined the history and nature of the programs at the participating institutions. Speaking for the JITMT programs were: Jesse Casman (University of New Mexico); Heidi Lopez-Cepero (University of Texas) Harris Liebergot (University City Science Center); John Shook (University of Michigan); and Jonathan Wolff (University of Pittsburgh), respectively.

This series of meetings brought the JITMT representatives into contact with dozens of Japanese businesses and gave us the opportunity to describe our programs in detail to many potential intern hosts. In addition, these meetings allowed the JITMT representatives to get to know each other and the people at MITI and JETRO.

Last year's program of MITI/JETRO sponsored meetings and the resulting intern/company matching process brought Pitt internship opportunities that had not previously existed, and we are hopeful that this year's meetings will result in similar new opportunities. — *Jonathan Wolff*

Hector Ponce addresses interns at the 3rd Annual JITMT Intern Workshop in Yokohama, Japan

—*Director, cont'd from page 1*

NTT Data, H.P. Loh, who will be at MITI for four weeks and Molly Haack, who will be teaching and doing research at Aoyama Gakuin University.

During June, JSTMP Program Manager Ann Chamberlain and I participated in this year's series of MITI/JETRO sponsored programs to introduce the US-Japan Industrial and Technology Management Training Program (JITMT) to Japanese companies.

With a hectic schedule that took representatives of the JITMT centers to meetings across Japan, we had the opportunity to promote JSTMP and the idea of hosting interns to dozens of companies.

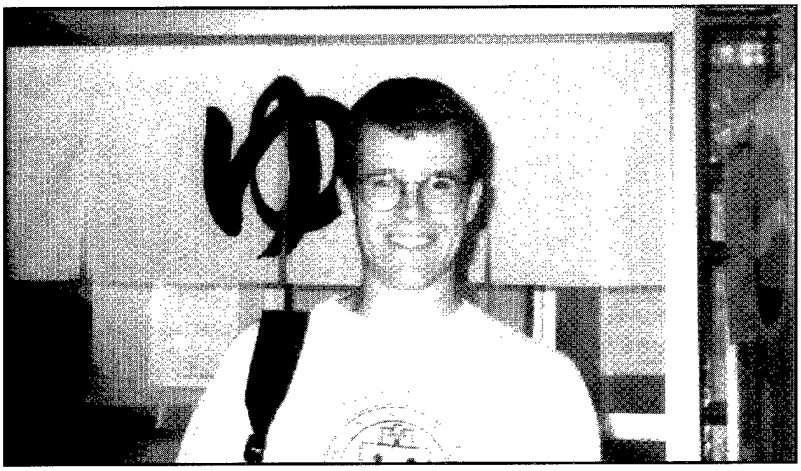
Less than a month later we returned to Japan to pay courtesy calls on Japanese businesses and to attend the 3rd Annual JITMT Intern Workshop. Ten Pitt/CMU interns were among the participants.

Among the speakers at the Workshop were Hector Ponce, President of Westinghouse Electric Asia, S.A.-Japan and Dr. Jeff Funk, Associate Professor at Kobe University's Research Institute for Economics and Business Administration, both of whom had received training in Japanese language and culture at Pitt during training for the Westinghouse-Mitsubishi Exchange Engineer Program.

In the meantime, a new JSTMP class began in June, facing the rigors of the Intensive Japanese Language Program. As this new group gains skill in the language and increases its knowledge of Japanese culture, we will be working to secure internships for those who successfully complete the program.

— *Jonathan Wolff*

SUMMERRESEARCH IN JAPAN
THE BOEING-JAPAN 777 PARTNERSHIP



Matt emerges refreshed from a local sentoo (public bath) in Tokyo

My research in Japan started off on somewhat silent a note. While on the flight to Tokyo, sometime after dinner was served, the gentleman I was sitting next to asked me, in Japanese, whether I was traveling alone. To his polite inquiry I responded that yes, I was twenty three years old. He looked at me somewhat quizzically, grunted something, put on his headphones, and promptly went to sleep.

It was somewhere around this point when I decided to open my JSL text and review some of my core conversations. Fortunately, he gave me a chance to redeem myself later on and soon we were conversing like long lost friends. He walked me about the cabin and introduced me to the rest of his family and we exchanged sorrowful farewells and took plenty of group photos after clearing customs in Narita.

The purpose of my trip to Japan was to conduct research on patterns in U.S.-Japanese high technology strategic alliances. The focus of my research was on Boeing's partnership with Fuji Heavy Industries, Kawasaki Heavy Industries, and Mitsubishi Heavy Industries for the development and manufacture of the 777. Up until the 1980s, American firms had been notorious for trading technology for market share with the Japanese. Often this "shortsightedness" came back to haunt the Americans in the form of market share lost as the Japanese firms learned how to adapt and apply more technology acquired from the Americans more efficiently. Computers, semiconductors, consumer electronics, and supercomputers are just a few examples of industries in which this took place. The question which I was concerned with, then, was whether Boeing—in the footsteps of earlier American companies—was helping to train the competition in commercial aircraft. Would we see, as the result of the technological sharing which has gone on in the 777 alliance, the emergence of a "Toyota in the Sky?"

While I had embarked on my trip with a skeptical attitude about Boeing and the 777 partnership, I left with a distinctly

See Dixon, page 6

CMU JSTMP STUDENTS VISIT JAPAN,
STUDY COMMERCE AND MANAGEMENT

While most of the industrialized world rouses from recent economic slumber, Japanese businesses are long awake and working overtime.

That attention to fast-paced economic detail impressed the 14 Carnegie Mellon business school students recently selected by CMU's JSTMP Program to study Japanese commerce.

"It was an excellent opportunity to experience a new culture," said George Murphy, who studied Japan's J.R. Railway system from March 25-29, 1996.

To qualify for the trip, Murphy and other peers at the Graduate School of Industrial Administration (GSIA) were required to submit research topics that centered around manufacturing issues.

Murphy studied how J.R. Railway, dubbed the Green Machine by its 16 million riders, can grow. Some of Murphy's suggestions to Japanese transportation officials included developing a more elaborate way of tracking ridership.

In the United States, many train and bus stations are near shopping centers and restaurants because ridership surveys indicate that commuters spend more than $300 million a year on food and other service products while waiting to board mass transit systems.

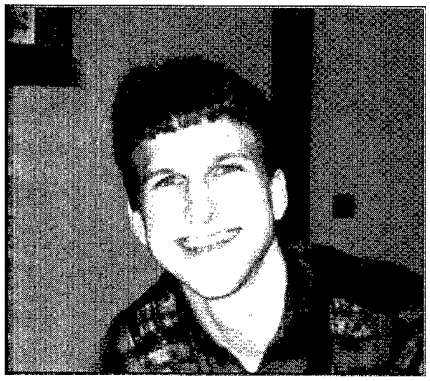
Other GSIA students visited Japanese electric plants and an IBM plant.

It's the kind of trip that helps

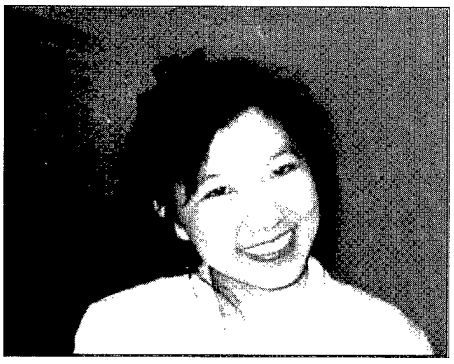
See CMU, page 6

INTERN CORNER

WHERE ARE THEY NOW?



Russ Vanderpool joined the JSTMP program at the University of Pittsburgh in January of 1993, after receiving a B.S. in Computer Science from NorthEastern University and working three years as a software engineer for Digital Equipment Corporation. He completed a one-year internship with NTT Data in Tokyo working on an interface application for database software. He was then hired by NTT Data as a regular employee. He is currently working in Harvard Business School's Information Technology Section as head of External Relations and Client Services.



Theresa Vanderpool received a B.S. in Civil Engineering from NorthEastern University in 1992, and completed the JTSMP one-year intensive language and culture program in December of 1993. She then set off for a six - month internship with Chiyoda Corporation in Yokohama, Japan. She worked on a structural design project for Qatar Liqhid Gas Projects (QGL). She is currently in Boston pursuing graduate work in architecture.

Susan Miller completed her B.S. in Chemistry from Midwestern State University in 1986. She has worked as an Environmental Chemist for the US Air Force, and as an Applications Specialist in an Applied Chromatography Lab in Springfield, Virginia. She also worked as a Managing Chemist and as a Independent Contractor of Technology Sciences Group, in Washington DC. She completed the JSTMP Program at the University of Pittsburgh in 1993, and embarked on a six-month intership at Chiyoda Corporation in Yokohama, Japan the following year. Since the completion of her internship, she received an M.A. in East Asian Studies from the University of Pittsburgh. She is currently seeking a position in Chemistry in the Pittsburgh area.

Bob Lizewski received a B.S. in Materials Science from the University of Pittsburgh in 1990, and an M.S. in Materials Science in 1993. He completed the JSTMP one-year intensive program in 1994, and interned for six months at Ishikawajim-Harima Heavy Industries in Tokyo, Japan in 1995. He is currently a Ph.D. student in Materials Science at the University of Pittsburgh.

PROFILES OF FORMER JSTMP INTERNS

INTERN CORNER

Patrick Odour graduated from the University of Alabama with a B.S. in Electrical Engineering in 1991. He also received an M.S. in Computer Engineering from Alabama in 1994. He completed the JSTMP Program in Pittsburgh in 1994, and began a one-year internship with Toshiba Corporation in Yokohama, Japan in 1995. He began full-time employment with a Toshiba subsidiary in Japan in August 1996.

Jim Rankin graduated from Carnegie Mellon University in 1992 with a B.S. in Logic and Computation. From June 1993 through January 1994 he studied intensive Japanese language and culture at the University of Pittsburgh. As part of his JSTMP tenure, he interned at NTT Data Corporation in the summer of 1995. He then went on to receive an M.A. in linguistics from the University of Pittsburgh in August 1996. He will begin a one-year internship at NTT Data Corporation in the fall of 1996.

Molly Haack has had over five years experience in international training and development. She completed the JSTMP Program at the University of Pittsburgh in January 1993, and a nine-month internship at Aoyama Gakuin University in 1994. Her research focus is Human Resource Mangement in high-tech companies in Japan and East Asia. She is currently completing a Ph.D. in International Human Resource Management at the University of Pittsburgh and will spend another six months at Aoyama Gakuin University doing research and teaching from September 1996.

Tom Nugent graduated in 1994 with a B.S. in Engineering from the University of Illinios. From January 1994 through December 1994, he studied intensive Japanese language and culture at the University of Pittsburgh. In addition to Bob Lizewski, Tom also interned at Ishikawajima-Harima Heavy Industries for one year. His research focus was the inverse design of a Cassegrain optical system solar collector. He plans to start graduate work at the Massachusetts Institute of Technology in the fall of 1996.

At a temple in Kyoto
Matt experiences another means of purification

Dixon, cont'd from page 3

different impression of the issue. After conducting a number of interviews in Seattle and later in Tokyo, I came to conclude that while the Japanese certainly *could* (at least from a technical standpoint) eventually challenge Boeing in the market, the likelihood of them doing so is greatly misunderstood in the U.S.

Not only is the Japanese aerospace industry too small and fragmented to support a major market presence, in addition, the risk-averse nature of both Japanese government and industry officials toward the industry virtually guarantees that Japan will retain its role as a major global subcontractor rather than a prime contractor for a fairly long time.

Perhaps what was most interesting was what I construed to be an enlightened understanding of all of this by the Boeing people with whom I spoke. The American firm understands the limitations of the Japanese industry and has therefore been able to effectively train the Japanese through the 777 partnership and make it pay off.

However, while the intent of the trip involved graduate research, it was plenty of fun to boot. In fact, one of the most enjoyable aspects of the trip was the opportunity I had to practice my Japanese. Although I often found myself wondering what the word was for a particular item as well as trying to use limited abilities to explain more complex ideas, I found that generally speaking, the Japanese people I ran into day to day were very friendly and seemed to enjoy speaking the language with me.

My trip also included solo trips to Nikko and Kyoto to visit the fantastic temples and shrines of those respective areas as well as an excursion to Kamakura City. I also had the opportunity to go out in Tokyo with a few other American graduate students—and, while the excursion did not help my Japanese language skills (or my head the following morning, for that matter!), I found the opportunity to discuss things Japanese with some fellow *gaijin* was helpful and highly entertaining.

I am looking forward to going back to Japan some time in the future and when I do, I'll not soon forget some of the valuable lessons I learned during my crash course in Japanese language and culture this past summer. Next time, for example, I will conduct an intensive study of food-related *kanji* before leaving. Although those plastic food displays in front of all of the restaurants in Japan are great for piquing your appetite, if you can't read the *kanji* for what you're looking at you'll be faced with the hard choice of either getting something you didn't order or having to drag the waitress out front and point out what it is you want. Also, it helps to be able to think in terms of yen since trying to convert everything to dollars will simply lead you to conclude that nothing is worth the price. It is possible to conserve money in Japan—but don't skimp where it really matters. For instance, grab a taxi rather than be late for an appointment but substitute ramen or soba over sushi (unless someone else is buying). And lastly, as I learned the hard way, be sure to study your JSL before boarding the plane!

—— *Matt Dixon*

CMU, cont'd from page 3

GSIA students gain contacts for their school and their business future," said Cynthia-Hess Coulter, program manager of CMU's JSTMP Program.

Coulter said some students stayed with Japanese families and had the opportunity to learn about Japanese culture and food.

Upon return to CMU, each student was asked to give a 20-minute presentation about his study mission to Japan on May 6, 1996.

(The preceding article was reprinted from the CMU GSIA Newsletter, with permission)

Intern Workshop keynote speaker Skip Orr

Workshop, cont'd from page 6

Kobe University's Research Institute for Economics and Business Administration, described how he learned to manage the challenge of living and working in a foreign culture when he was a Westinghouse-Mitsubishi Exchange Engineer and worked with the Mitsubishi Semiconductor Manufacturing Equipment Department in Fukuoka, Japan in 1989.

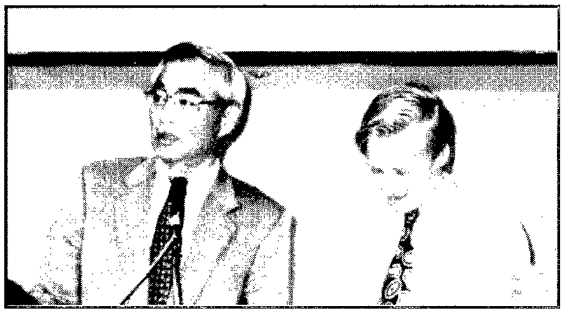
Robert Lewis, President of the Tsukuba Research Consortium, provided a global perspective of some of the differences between American and Japanese society and how that affects the experience of Americans working in Japan.

Hogara Amaki, General Manager of the Personnel Division of Taisho Pharmaceuticals Co., Ltd. rounded out the panel by giving a Japanese company's perspective of the internship experience.

In the afternoon, two speakers addressed the topic of "What's Next?: The Job Search at American Companies in Japan." Frank Ferro, Director of Marketing for Lucent Microelectronics, Japan, described his company and the employment opportunities there, as well as how to market oneself to other American companies in Japan.

Hector Ponce, President of Westinghouse Electric,

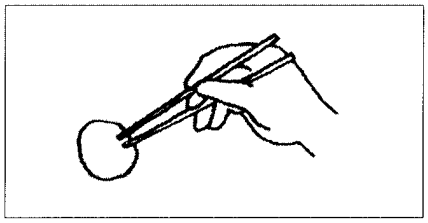
See Workshop, page 8



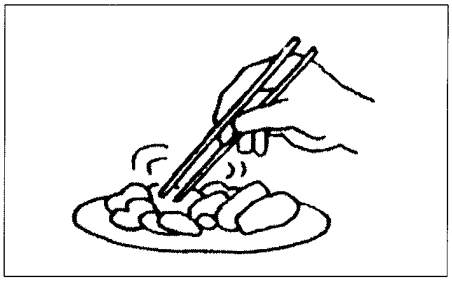
Hogara Amaki (left), Intern Workshop panelist from Taisho Pharmaceuticals Co., Ltd.

Inside Japan

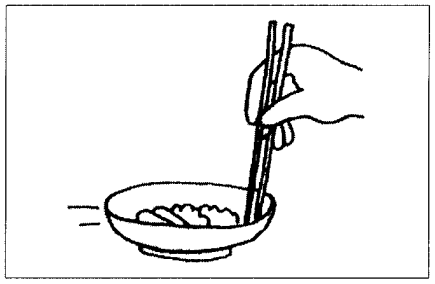
"Chopsticks Etiquette"



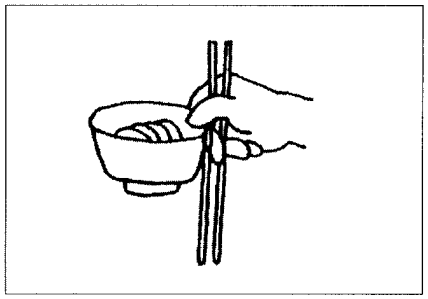
Avoid spearing pieces of food with your chopsticks.



Try not to rummage about in the food looking for the tastiest morsel.



Don't use your chopsticks to shift dishes around.



Avoid picking up dishes with the hand that is holding the chopsticks.

*From JTB's *Illustrated Japan* series, Volume 2*

— *Workshop, cont'd from page 1*

Asia, SA-Japan, discussed the usefulness of Japanese language skills and a Japan internship experience for work anywhere in Asia and with any company working internationally.

During the Break-out discussion sessions interns discussed specific experiences during their Japan internship that they had found particularly valuable learning experiences in small groups. Various experiences were then presented to the whole group for discussion and comment from the workshop speakers.

JITMT Workshop speaker Frank Ferro addresses interns

The Workshop concluded with brief presentations by three special guests: Thomas Davis, Liaison Scientist for the Air Force Office of Scientific Research, Asian Office of Aerospace R&D in Tokyo; Hideo Noguchi, Deputy Director, International Research and Development Cooperation Division, Ministry of International Trade and Industry (MITI); and Yukio Nakamura, Fellowship Support Division, Machinery and Technology Department, Japan External Trade Organization (JETRO).

The workshop was coordinated and hosted by the University of Michigan, with assistance from the University of Pittsburgh and the University of Texas at Austin. Special thanks go to Heidi Tietjen for her untiring work as workshop coordinator and also to Susie Brown and Heidi Lopez-Cepero for their special assistance. As in previous years, funding for the workshop was provided by the Air Force Office of Scientific Research. The workshop not only provides a forum for the interns to learn and grow, it also provides an opportunity for all twelve centers to cooperate and work together as encouraged by the mandate of the JITMT program.

For further information about the 1996 JITMT Intern Workshop or materials presented there, please contact Heidi Tietjen, Associate Director:

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Management Program
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——— *Ann Chamberlain*

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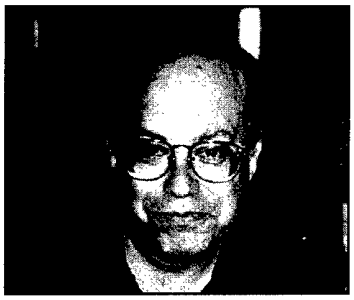
JSTMP Newsletter

Japanese Science and Technology Management Program - University of Pittsburgh/Carnegie Mellon University Fall 1995

DIRECTOR'S MESSAGE



Jonathan H. Wolff

1995 has been a year of extraordinary activity for JSTMP at the University of Pittsburgh (Pitt). At the beginning of the year, in addition to starting a new class in the JSTMP full-year intensive Japanese language program and preparing for internships in Japan slated to begin in early 1996, our interns took positions at Toshiba and Ishikawajima-Harima Heavy Industries (IHI). As Summer approached, JSTMP inaugurated a shift in its calendar, starting its full-year intensive Japanese language program in May to allow participants to follow the standard academic year (at Pitt) and prepare for internships beginning in the Summer of 1996.

Summer was marked by the remarkable efforts of the Japan External Trade Organization (JETRO) and the Japanese Ministry of International Trade and Industry (MITI). These high ranking goverment agencies launched an initiative to introduce the intern programs of all of the Japanese Industry & Technology Management Training (JITMT) Programs to Japanese businesses through a series of meetings in Sapporo, Tokyo, Hammamatsu, Nagoya and Osaka. More than 250

See New Faces, page 2

JITMT WORKSHOP IN JAPAN

Over 200 individuals, including 158 interns and 32 faculty and administrators from all 12 Japanese Industry and Technology Management Training (JITMT) Centers, attended a one-day intern workshop on July 29, 1995 in Yokohama, Japan.

JSTMP coordinated the Second JITMT Intern Workshop on behalf of the Air Force Office of Scientific Research, the federal funder of all JITMT programs. Fellows from the Manufacturing Technology Fellowship Program and the National Science Foundation also attended.

The purpose of the conference was to bring interns together to discuss and improve their intern experiences.

Keynote speaker, Dr. James Abegglen, Chairman of Gemini Consulting (Japan) Inc. gave an outstanding presentation on *Continued Dynamism? Perspectives on the Japanese Economy.* Because of numerous requests from a variety of sources, copies of Dr. Abegglen's presentation slides were sent to each JITMT Center.

The Workshop included two panel presentations, the first of which was composed of five veteran interns. Each examined the internship experience from the viewpoint of having experienced it and then continued in his/her professional and academic careers.

The second panel was composed of four representatives from Japanese companies who voiced perspectives of companies that host interns.

A Break-out Discussion Group in the afternoon gave interns the opportunity to interact more informally with their peers. Workshop participants were divided into small groups and each group was asked to create a list of "Ten Top Dos and Don'ts for an Intern in Japan." (See list on page 7).

The Workshop concluded with brief presentations by three special guests: Mr. Takashi Honjo, Director for International Research and Development Cooperation, Ministry of International Trade and Industry of Japan; Dr. Jay Lee, Program Director of the Engineering Education and Centers Division of the National Science Foundation; and Dr. Robert Kuntz, Second Secretary of Environment, Science and Technology of the US Embassy in Tokyo.

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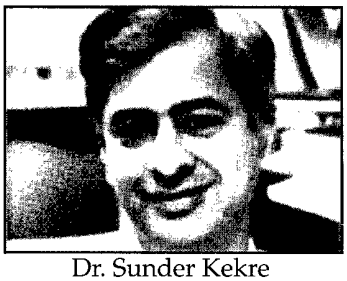
New JSTMP Faces



Dr. Sunder Kekre

Dr. Kekre is the new Co-Director of JSTMP at Carnegie Mellon University.

Ms. Ann Chamberlain

Ms. Chamberlain replaced Mr. Steve Brenner as the University of Pittsburgh's JSTMP Program Manager in September of 1994.

Ms. Cynthia Hess Coulter

Ms. Hess Coulter is the new JSTMP Program Manager at Carnegie Mellon University.

(New Faces, continued from page 1)

representatives of Japanese companies and business organizations were introduced to the intern program by representatives of MITI, JETRO and the JITMT Programs themselves. In addition to the opportunity to contact these representatives of Japanese industry, these meetings provided the opportunity for JITMT program managers and Japanese government officials to better know each other over a ten day period.

The Fall term brought changes in the personnel of JSTMP. Dr. Robert Sullivan and Ms. Susie Brown of Carnegie Mellon University have left Pittsburgh to pursue opportunities at the IC^2 Institute at the University of Texas. Their contributions to the program have been substantial and they will be missed. Fortunately, Susie Brown has agreed to continue her association with JSTMP as a consultant. October brought another transition as Prof. L. Keith Brown stepped down as Director of JSTMP to devote more time to his own research and teaching. JSTMP is very much a product of Dr. Brown's knowledge, hard work, vision, and passion. We are grateful for his contributions and rest easier knowing that his judgment and advice are still available to us.

Jonathan H. Wolff is the new Director of JSTMP at the University of Pittsburgh. He currenty serves as the University's Associate Director of Asian Studies. He is an anthropologist who focuses on cultural process and enculturation in Japan.

Toyota Trip

This past June, ten people from the University of Pittsburgh JSTMP had the opportunity to visit Toyota Motors Manufacturing (TMM) in Georgetown, Kentucky and Johnson Controls, a supplier to TMM.

The plants are located close to one another so visiting both on the same day was convenient, and each tour provided different insights into Japanese manufacturing.

The seminar at TMM included a plant tour along with breakout group discussions with TMM management and team leaders.

The seminar at Johnson Controls Foamech Plant, conducted by Mr. John O'Driscoll, provided insight into Japanese production methods that have been successfully incorporated and become the foundation for effective production. These methods include "just in time" production, visual management and a continuous improvement focus.

For more information regarding tours at either of these sites, please contact:

Toyota Motors Manufacturing
Ms. Kim Craycraft
Toyota Motor Manufacturing, USA, Inc.
1001 Cherry Blossom Way
Georgetown, KY 40324
Tel: 502-868-3026
Fax: 502-868-3060

Johnson Controls
Ms. Priscilla Marshall
Johnson Controls
Foamech Plant
P.O. Box 679
Georgetown, KY 40324
Tel: 502-863-0400

MITI/JETRO TAKE JITMT ON THE ROAD IN JAPAN

Mr. Takashi Honjo in Tokyo

This past summer Japan's Ministry of International Trade and Industry (MITI) and the Japan External Trade Organization (JETRO) initiated a program to introduce JITMT Programs to Japanese companies and to help expand the number of internship opportunities for Americans in Japan. Both MITI and JETRO sponsored, coordinated and hosted these promotional conferences, or "Roadshows," in five major Japanese cities. Over 250 representatives from small and medium-size Japanese companies attended the meetings in Sapporo, Tokyo, Hamamatsu, Nagoya, and Osaka.

Each meeting was similar in format: Mr. Takashi Honjo, Director of International Research and Development Cooperation at MITI, or Deputy Director Keisuke Murakami opened the meeting; Mr. Eiichi Nagata, Director of Fellowship Support in JETRO's Machinery and Technology Department, served as the emcee; and Mr. Hisashi Yamada, Assistant Director of Fellowship Support, JETRO, gave details about how companies could work to coordinate JITMT internships.

Keynote presentations were given by a different Center Director or Administrator at each U.S. location. These included, Dr. L. Keith Brown (University of Pittsburgh), Dr. Kazuhiko Kawamura (Vanderbilt University), Dr. Dean Collinwood (Utah Consortium), Dr. Michio Tsutsui (University of Washington), and Dr. Barbara Itoh (EAGLE Program). A question and answer period followed the presentations.

News of the "Roadshows" appeared in at least three Japanese newspapers. Each article generally described the JITMT Program and discussed why the conferences took place.

One paper wrote, "MITI observes that this may be a sign of desire for globalization and Japan-US collaboration, in addition to a shortage of human resources (in Japan)." (Translation by Dr. Koto White, Air Force Office of Scientific Research, from the August 1995 edition of the *Nikkan Kogyo Newspaper*).

As of October 1995, offers for over 80 interns from more than 35 Japanese companies have resulted from these programs. Because of the positive response, another series of Roadshows is anticipated in different Japanese cities next year.

ROBOTS AT THE READY

Mention the term "robotics" and many of us still conjure up images of a overgrown tin can with flailing arms, mock lobster claws and a mechanical voice saying "Danger Will Robinson."

This indicates two things:

(1) Robotics technology has been around for a while.

(2) We might not be aware of all the activity that's been going on in the robotics field in recent years.

Let's look at issue number two, especially as it pertains to activities at Carnegie Mellon University's Robotics Institute.

Robotic Systems have gained much public attention in recent years for accomplishing technological feats previously thought to be years away. Some examples of Carnegie Mellon's success in moving robots out of the laboratory and into the real world include unmanned exploration of live volcanoes, autonomous navigation of vehicles (both off-road and in traffic), preflight servicing of the Space Shuttle, and autonomous operation of rock trucks in open-pit mining.

Other areas where we can see Robotic systems at work are:

- Surgical Robotics for Orthopedics
- Human Computer Interaction for Computer-Assisted Surgery
- Manufacturing

The Robotics Institute at Carnegie Mellon University has over 60 graduate students. More than a dozen of these students have participated in the Japanese Science and Technology Management Program. This participation includes most aspects of the program: language, research trips and internships. Through these activities, students have been able to learn Japanese language and cultural skills. Taking these skills to Japan on short or extended trips, they then establish long-term contacts.

With the many robotic applications being utilized, along with the

See Robots, page 7

INTERN CORNER

#1

"DOING LUNCH IN JAPAN"

by Molly Haack

Molly Haack is a doctoral candidate at the University of Pittsburgh, specializing in International Human Resource Management. She spent nine months conducting research at Aoyama Gakuin University focusing on International Human Resource Management.

Molly at a "real" lunch

Next week marks the one year anniversary of my venture into "conducting research" in Japan. Although I did not realize it at the time, I was about to uncover an ingenious method for gaining quick access to the often elusive Japanese corporate world, a feat tantamount to completing the human genome, finding the black hole, and other miraculous discoveries which coincidentally all happened during my stint in Japan.

Before I divulge this truly remarkable discovery, let me provide a brief history. You see, it all began with luck ... and Dr. Keith Brown.

In 1993, during one of the Japanese Society and Culture courses, Dr. Brown announced the JSTMP program with which you are now familiar. As I was studying Japanese Culture (and Business) for my Ph.D. minor, this seemed like the perfect opportunity to combine my interests in International Business, Technology Management and Japan.

After a year of intensive lamguage study, the Program placed me in a dream assignment. I was to become a "visiting researcher" at a prestigious Japanese university, with all the autonomy, freedom, and support I needed to conduct research for my dissertation.

You can imagine my enthusiasm to "jump in" right away developing surveys, piloting questionnaires, and interviewing as many Human Resource managers as possible. Although my language training had been excellent, it had been nine months since I was in the classroom, so I figured "OJT" (on-the-job training) was the best strategy.

I was equipped with *meishi* (business cards), plenty of "business etiquette" training, and lots of advice from the professors at my university in Tokyo (actually, I did not "venture out" until my 4th week in Japan, which was considered fast by local standards).

In order to develop a meaningful questionnaire, I decided to interview HR managers for their feedback on the relevancy of my questions, design and approach. As these HR managers were former alumni (from my host university and Carnegie-Mellon) I was assured that they would be very helpful.

I will never forget my very first "official" phone call. I was so nervous I paced up and down for half an hour. Finally, still standing, I picked up the phone and in my best Japanese, spoke with my first potential contact. The conversation went something like this (in Japanese, after I got through the secretary):

Me: "Hello. I am Molly Haack from Aoyama Gakuin University. I am in Japan conducting research regarding Japanese Human Resource Management and Technology. Professor Mitani (usually their previous Business professor) suggested that you may be willing to give me some advice on my project. I would greatly appreciate your help." (long pause)

Japanese Manager: "Well, I am pretty busy, ..."

Me: "I know you are extremely busy, so I thought we could maybe just do lunch ..."

Japanese Manager: "Lunch?"

Me: (with building confidence!) "Sure! When would be a good time for you?"

Japanese Manager: " .... aahhh, eeeettttooo, ... tomorrow!"

Me: "Great, thank you so much! Is noon OK? I will come to your of-

See Lunch, page 6

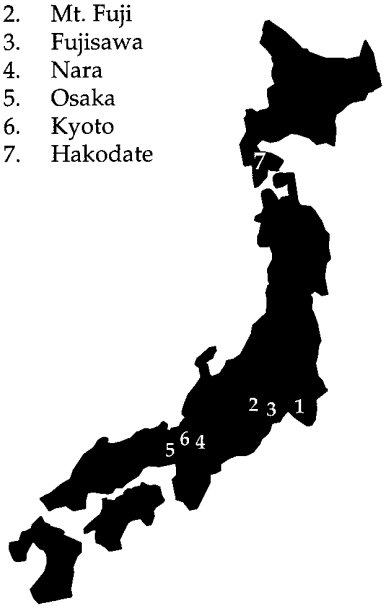
"Around Japan in Five Days"

by Jim Rankin

Jim Rankin is a graduate of Carnegie Mellon University and recently completed a summer intership at NTT Data Corporation in Tokyo, Japan.

INTERN CORNER #2

1. Shuuzenji
2. Mt. Fuji
3. Fujisawa
4. Nara
5. Osaka
6. Kyoto
7. Hakodate



It is very easy to go to Tokyo, Japan, and see the country as one huge city. This past summer I worked in the natural language processing division of NTT Data in Kawasaki, Japan, about half an hour outside of Tokyo. I lived in a dorm in Fujisawa which was about an hour away from work. Most of my time was spent in this area between Fujisawa and Tokyo which includes Yokohama. The entire area looked like one continuous city. I have heard that Yokohama, itself, has replaced Osaka as the second largest city in Japan. I remember seeing Yokohama's Landmark Tower from the top floor of a Tokyo skyscraper: there was nothing but a sea of concrete in between. This was my vision of Japan for a while. It was not until I did some traveling that I realized not every place in Japan is like Tokyo, and it was through these travels that my Japan experience was really enhanced.

One of my first experiences outside of the Tokyo megalopolis was a visit to an *onsen* or hot springs resort. My section chief's mother-in-law (*okaasan*) owns an inn in Shuuzenji, a town famous for its *onsen*. Aside from the local neighborhood feeling of the town, one of the things that I remember most is the food. I felt quite spoiled by *okaasan* during my visit as she constantly set a variety of delectable Japanese dishes in front of me.

What I valued most about that trip was that I got the chance to talk to my section chief on a more personal level than I had been able to at work. He confided in me and voiced some of his concerns regarding the other members of our section. He said that he wanted to see all of them succeed, and that as young researchers today they had more opportunities than had been available to him when he started working. I thought he sounded like a concerned father talking about the futures of his sons.

Another memorable trip was in July when I went to climb Mount Fuji. It was before the end of Japan's rainy season, and although it was not raining, the skies looked ominous. My fellow climbers and I debated long and hard about whether or not to climb Japan's most famous mountain that day. We decided to press on because it was going to be the last opportunity for some of the members of the group before they left Japan. A bad omen came when a taxi driver shook his head and laughed after he found out we were climbing. The temperature was pleasant, and the clouds seemed to be clearing. We were already much higher than our surroundings, and the view was breathtaking. What a contrast to see endless green rather than the endless buildings of Tokyo.

See Around Japan, page 8

Jim and his colleague at Fuji station #8

(Lunch, continued from page 4)

fice, if you could please fax me your address and directions, the fax number is . . . "

And so went my very first attempt. It was amazing. I had been warned that getting in to see these guys could take months, even if I did have my "introduction" from a former professor. I was so excited that I immediately picked up the phone and tried again. Once again, it was the same conversation, and, at the suggestion of lunch, an almost startled expression.

Me: "How about doing lunch?"
Japanese Manager: "Lunch??"
Me: (once again, enthusiastic that I have just hit on the magic word!) "Sure, are you available this week?"
Japanese Manager: "How about tomorrow?"
Me: (thinking, "what luck!") "Would the day after tomorrow be OK? I can meet you at your office and if you just fax the directions..."

At the end of that day I sat alone in my empty office staring into the Tokyo sky. "This is *it*", I thought, "I was *meant* to be here. Dr. Brown was right all along, Japan *is* my destiny!"

The very next day, eager to meet with my "informant", I arrived a little early to the reception area (15 minutes) and when the young woman called upstairs, within minutes the Japanese manager appeared.

He seemed genuinely nervous and confused. I guessed that American women were not commonly seen as academics, let alone business researchers in Tokyo. I was surely intimidating the poor guy. I immediately bowed, we exchanged greetings and *meishi*, and so as not to prolong the agony for this shy man, I suggested, "How about sushi?"

At my suggestion, this Japanese Manager seemed to freeze, stop

Molly checks out Kabuki

breathing, and just stare at me. I thought that I must have shocked him again because Americans are not supposed to like sushi. But before I could change the suggestion, he seemed to slouch in relief, and then, producing a huge grin, said, "Hai!" (yes!).

The rest of the afternoon went swimmingly, as we discussed his job, experiences and musings on management in Japanese and English. My approach worked, and I knew as I practiced this process, just like in drill class, it would become second nature.

Somehow things did not improve with my initial contacting method. The next three initial encounters went exactly the same way for my interviewees; awkward behavior, confusion, lots of pausing, and then bewilderment followed by big sighs of relief at the suggestion of sushi.

I was beginning to feel that although my strategy had resulted in quick turn-around times, and excellent interviews, I was still doing something wrong. I decided to give it one more try and if it happened again, I would consult one of my university colleagues about it.

My next meeting was with the Head of Management Development for Nihon Unysis (an American company) who was referred to me by Susie Brown (former JSTMP Coordinator/CMU). Susie said that this gentleman was extremely nice and would be very helpful in gaining more contacts for interviews. He was a CMU alum and active in the American business community. When I called him, we spoke in Japanese, which I think really impressed him. But, again at the mention of lunch, he seemed reticent. Although he agreed to meet in a couple days, I hung up the phone wondering why someone with such experience with Americans would be hesitant at having lunch. It had to be the "gender thing". I worried for the next couple of days about how to overcome this. Then I realized, why not ask him? Susie said that he would be helpful, so I could ask him for guidance on my (very successful, yet uncomfortable) approach to interviewing Japanese managers.

When I arrived at Nihon Unysis (5 minutes late), he was standing in the lobby waiting. As I rushed to greet him he stood, stoically. I bowed my lowest bow, used my best honorific Japanese and produced my *meishi*. I waited for his response, desperately holding back profuse apologies. The seconds seemed like hours! Just when I was

See Lunch, page 7

(Lunch, continued from page 6)

about to begin my humble apologies, *he burst out laughing.*

"I brought my towel!" He announced at the top of his lungs, in p*erfect English*!

"What? Your English is .... what do you mean t*owel* ???", I said in almost total paralysis.

"You said you wanted to "*ofuro* shimashoo" , so I brought my towel", he exclaimed with a wide grin.

I stood there, unable to move, think, or breathe. It hit me like a bullet train, head on. Lunch is .... "ohiru" ..... hot bath is .... "ofuro".

"Oh ... my ...", I thought, "I have been asking them to take a *hot bath* with me! No wonder ... and so fast to schedule .... and so confused ..... and so relieved ? .... and .... Oh No!"

"Don't tell me you did this with others?", he began to joke, "is this new CMU interview policy? Wow, it sure is clever, ha ha ha". As his voice echoed in my head, I felt my neck heating up and the blush of my embarrassment beginning to show. "That's OK", he comforted, " I am sure they knew your error, and they probably got a good laugh out of it. And they will remember you, I am s*ure*, and that could help your future research."

His comments did not help, but I managed to let it go as we walked out of the building, my head hanging, my research adventure *over*.

Believe it or not, I did recover. And my Nihon Unysis contact became a helpful colleague. And, as you probably have guessed, this represented only the beginning of a series of blunders which marked my experiences in Japan. Yet, through it all, I was able to learn a lot, meet many interesting and helpful people, and come to love the Japanese people and country. I just did it the hard way . . .

(Robots, continued from page 3)

new advances, it is important for both Japanese research centers and America's future roboticists to be able to interact and learn from each other.

Soon, the car or truck on the highway, the surgeon in the operating room, or the harvester in the field will replace the image of tin cans and flashing lights when we think of robotics. Are we ready?

Top Ten "Dos and Don'ts" for an Intern in Japan

DOs	DON'Ts
10. Do get outside Tokyo and make the great escape once in a while.	10. Don't use hi-tech toilets unless you can read kanji.
9. Do wear socks (without holes).	9. Don't go anywhere with less than ¥10,000.
8. Do bring your *meishi.*	8. Don't expect full Internet access.
7. Do learn at least one Japanese karaoke song and learn to like karaoke.	7. Don't wear the bathroom slippers out of the bathroom.
6. Do learn culture as well as language.	6. Don't start all conversations with, "In the U.S. we..."
5. Do bring an *omiyage* from anywhere you visit and from home.	5. Don't interpret silence as acceptance.
4. Do make many friends, especially the ones who will tell you what's <u>really</u> going on.	4. Don't expect all foreign ers to speak English and don't expect all Asians to speak Japanese.
3. Do be patient as people warm up to you.	3. Don't pour your own drink.
2. Do smile!	2. Don't use sumo to resolve conflict in the office.
1. Do distinguish — the brown stuff is <u>not</u> peanut butter and the green stuff <u>ain't</u> guacamole.	1. Don't say "Nomo who?"

This abbreviated list was taken from the lists compiled by interns who participated in the July 29, 1995, JITMT Intern Workshop. For a copy of the complete list, please contact Ann Chamberlain, 4E25 Forbes Quad, University of Pittsburgh, Pittsburgh, PA 15206, Tel. 412-648-7414, Fax 412-648-2199, E-mail jstmp+@pitt.edu

(Around Japan, continued from page 5)

Things slowly began to get worse. The trail we started out on quickly disappeared. The temperature suddenly dropped, and the wind began to pick up. Nonetheless, we were right on schedule to reach the summit just before sunrise when we stopped at a lodge at the eighth station. By that point, we were more than happy to pay ¥600 for cup of ramen noodles, and to part with ¥5,000 to stay in the lodge out of the cold.

We slept in the lodge for about two hours before resuming our climb. As we began again it was as if we were climbing through a rain cloud and the wind continued to gain strength as well. It seemed like we would be blown over the cliff at the edge of the trail. After about an hour, we decided to wait until it was light enough so that we could find the trail down the mountain. At the time, retreat seemed to be the only sane option. Going all that way and not making it to the summit has come to haunt me. I am determined to someday make it to the top of Mt. Fujii.

At the beginning of August, I did a five-day whirlwind tour of Japan thanks to a one-week Japan Rail Pass offering unlimited train travel available only to foreigners. My itinerary included Nara, Osaka, Kyoto, in western Japan (Kansai), and Hakodate on the northern island of Hokkaido. Compared to Tokyo, these areas seemed very spacious. I remember sticking my arms and legs out in front of me in a sparsely populated train and saying "Look! I can do this without hitting anybody!"

In the Kansai area I perceived a difference in people's attitudes, as well. People seemed more laid back and casual. I noticed this when I revisited a church in Osaka where I stayed a night. I ate breakfast with the pastor and his wife before the Sunday morning service. The pastor was wearing his suit pants and a white dress shirt, but no jacket or tie. While preaching the sermon, his jacket and tie appeared and then disappeared after the sermon once again. Most native Tokyoites would probably not have been so quick to discard their formal attire.

The landscape in Hokkaido changed from a sea of concrete to one of rice paddies. I had heard that Hokkaido is the part of Japan most geographically like the US and it seemed so. There were lots of mountains, lakes and farms. Hakodate seemed like an American city with its broad streets and Western style architecture. Hokkaido is also well known for its seafood, beef, and dairy products.

I am very grateful for the opportunities I had to travel in Japan. They gave me a much broader perspective on the nation of Japan and the people who live there. I second the advice that was given among the *Top Ten List of Dos and Don'ts for an Intern in Japan* that were compiled during the July 29 JITMT Intern Workshop: "Get out of Tokyo (at least for a visit)!" ◙

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